

Railway Age

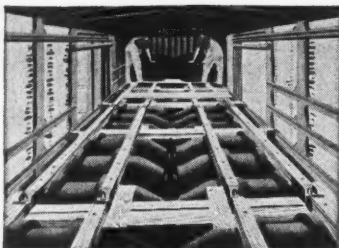
Fourscore and seven years ago our fathers brought forth upon this continent a new nation, conceived in liberty, and dedicated to the proposition that all men are created equal. Now we are engaged in a great civil war, testing whether that nation, or any nation so conceived and so dedicated, can long endure. We are met on a great battle-field of that war. We have come to dedicate a portion of that field as a final resting-place for those who here gave their lives that that nation might live. It is altogether fitting and proper that we should do this. But in a larger sense we cannot dedicate, we cannot consecrate, we cannot hallow this ground. The brave men, living and dead, who struggled here, have consecrated it far above our poor power to add or detract. The world will little note nor long remember what we say here; but it can never forget what they did here. It is for us, the living, rather, to be dedicated here to the unfinished work which they who fought here have thus far so nobly advanced. It is rather for us to be dedicated to the great task remaining before us: that from these honored dead we take increased devotion to that cause for which they gave the last full measure of devotion; that we here highly resolve that these dead shall not have died in vain; that this nation, under God, shall have a new birth of freedom; and that government of the people, by the people, and for the people, shall not perish from the earth.

These immortal words of Abraham Lincoln ring out today as clearly as they did eighty years ago on that war clouded Christmas following the Gettysburg address.

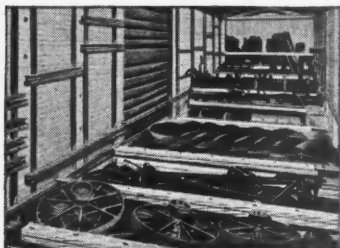
ELECTRO-MOTIVE DIVISION

GENERAL MOTORS CORPORATION

LA GRANGE, ILLINOIS, U. S. A.



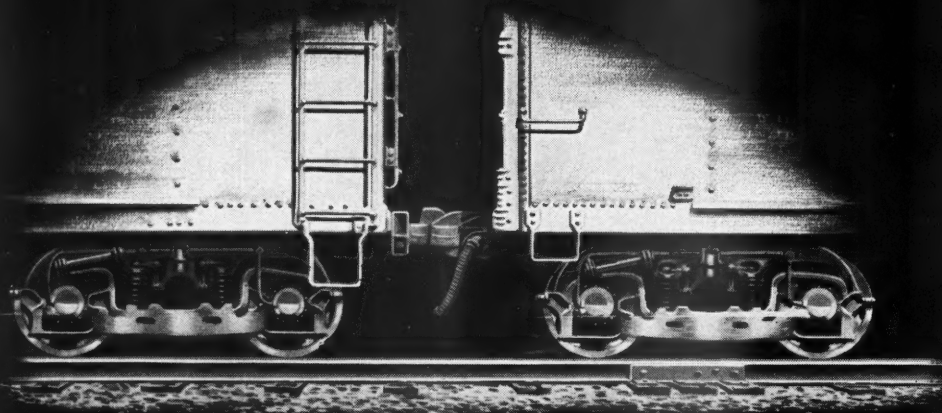
Heavy bombs—vital cargo of war headed for naval action—are loaded safely, held securely in transit by Evans Utility Loader.



Odd-shaped, uncrated farm machinery, double the ordinary load, is held firmly by Evans Utility Loader, rolls safely to destination.



The Evans Utility Loader permits shipping twice as many Army aircraft engines per box car—in perfect safety—without boxing.



song of the rails!

The throaty bark of a whistle pierces the still, cold air; sparks fly skyward, lights flicker; a rush and a roar, the clickety-click of speeding wheels on ribbons of steel . . . a long, shadowy form rolls through the night . . . it's the song of the rails!

Transporting precious cargoes of men, materials and munitions . . . in a ceaseless parade across the nation . . . American railroads are a mighty force in the fight for freedom.

And in this great network of wartime transportation the Evans Utility Loader is playing an important role. To railroads and shippers it brings a new efficiency to the ordinary box car . . . permits loading from *end to end—top to bottom* . . . adds an average of $\frac{1}{3}$ more payload per car.

Freight . . . odd shapes, sizes and weights . . . without

dunnage or crating . . . is held firmly protected against vibration and shock . . . all slack is removed.

Damage in transit is eliminated . . . cost of cargo handling reduced by the Utility Loader. It *modernizes* box cars!

★ ★ ★
Vision to Anticipate the Needs of Tomorrow
Creates New Industries Today

W. Evans
PRESIDENT



**EVANS PRODUCTS
COMPANY**
DETROIT

Evans War Products: Machine Gun Mounts • Tank and Automotive Heating and Ventilating Equipment • Evanoil Water Heaters • Aircraft Engine Mounts • Airplane Landing Gear Beams • Battery Separators • Prefabricated Houses • Plywood • Skyloader • Utility Loader • Auto Loader • Auto-Railer • Auto-Stop • Stampings

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price \$6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 115, No. 26.

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered U. S. Patent Office.

Vol. 115

December 25, 1943

No. 26

In This Issue

PUBLISHED EACH SATURDAY BY THE SIMMONS-BOARDMAN PUBLISHING CORPORATION, 1309 NOBLE STREET, PHILADELPHIA 23, PA., WITH EDITORIAL AND EXECUTIVE OFFICES AT 30 CHURCH STREET, NEW YORK 7, N. Y. AND 105 W. ADAMS STREET, CHICAGO 3, ILL.

WASHINGTON 4, D. C.: 1081 NATIONAL PRESS BUILDING, CLEVELAND 13: TERMINAL TOWER SEATTLE 1: 1033 HENRY BUILDING, SAN FRANCISCO 4: 300 MONTGOMERY STREET, ROOMS 805-806. LOS ANGELES 14: 530 WEST 6th STREET.

SAMUEL O. DUNN, CHAIRMAN. HENRY LEE, PRESIDENT. ROY V. WRIGHT, VICE-PRESIDENT AND SECRETARY. F. H. THOMPSON, E. T. HOWSON, F. C. KOCH, R. E. THAYER, H. A. MORRISON, J. G. LYNE, H. E. McCANDLESS, VICE-PRESIDENTS. J. T. DeMOTT, TREASURER.

SAMUEL O. DUNN, EDITOR. ROY V. WRIGHT, MANAGING EDITOR. ELMER T. HOWSON, WESTERN EDITOR. JAMES G. LYNE, ASS'T. TO EDITOR. C. B. PECK, ALFRED G. OEHLER, E. L. WOODWARD, J. H. DUNN, R. A. DOSTER, H. G. WILCOX, NEAL D. HOWARD, CHARLES LAYNG, GEORGE E. BOYD, WALTER J. TAFT, M. H. DICK, JOHN S. VREELAND, C. MILES BURPEE, ARTHUR J. McGINNIS, J. L. STOVER, C. B. TAVENNER, H. E. MEASON, LIBRARIAN: EDITH C. STONE, EDITORIAL ASSISTANT: BETTY KETCHUM.

RAILWAY AGE IS A MEMBER OF ASSOCIATED BUSINESS PAPERS (A. B. P.) AND AUDIT BUREAU OF CIRCULATION (A. B. C.).

SUBSCRIPTIONS, INCLUDING 52 REGULAR WEEKLY ISSUES, AND SPECIAL DAILY EDITIONS PUBLISHED FROM TIME TO TIME IN NEW YORK OR IN PLACES OTHER THAN NEW YORK, PAYABLE IN ADVANCE AND POSTAGE FREE. UNITED STATES, U. S. POSSESSIONS AND CANADA: 1 YEAR \$6.00; 2 YEARS, \$10.00; FOREIGN COUNTRIES, NOT INCLUDING DAILY EDITIONS: 1 YEAR, \$8.00; 2 YEARS, \$14.00. SINGLE COPIES, 25 CENTS EACH. H. E. McCANDLESS, CIRCULATION MANAGER, 30 CHURCH STREET, NEW YORK 7.

Page

Highway Program Fosters Waste 1002

An authority who is interested only in efficient highway transportation explains why the proposed federal program for a \$3 billion highway expenditure is a consideration of prime importance to the railroad industry.

A Well-Kept Wartime Secret 1006

Albert Gardiner, assistant general passenger traffic manager, now reveals the precautions taken by the Canadian National in its preparatory arrangements for the movement of President Roosevelt, Prime Minister Churchill and their staffs to the memorable meeting in Quebec. Though hundreds of employees were necessarily entrusted with some part of the details, only about six actually were aware of the identity of the famous visitors.

What Qualities Make a Supervisor? 1008

Pointing out that tact and diplomacy are thoroughly consistent with honesty and frankness, C. M. House, superintendent motive power and equipment, Alton, herein differentiates between "leading and driving." He suggests: "Like your men."

EDITORIAL COMMENTS

The Threatened Railway Strike	999
Effect of the War on Progress in Track	1000
Putting the Railroads in the Middle	1000
Business Strives for More Socialized Transportation	1001

GENERAL ARTICLES

Highway Program Fosters Waste	1002
A Well-Kept Wartime Secret	1006
Some Press Views on the Strike Threat	1007
What Qualities Make a Supervisor?	1008
Rail Output in 1942 Highest in 12 Years	1010
Rail Dividends Lag as Nation Grows	1011
Fairmont Front-End Draw Bars for Motor Cars	1012

COMMUNICATION 1012

RAILROADS-IN-WAR NEWS 1013

GENERAL NEWS 1015

The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service



PRINTED IN U. S. A.

New Features . . .



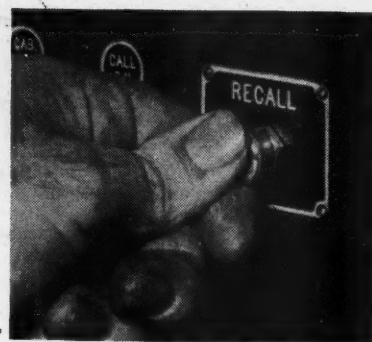
CODED CARRIER CONTROL

Provides for transmission of code-carrying, high-frequency alternating currents to and from remote or additional sections of C.T.C. territory. A number of sections may be operated simultaneously over the same two line wires. Toggle switches on C.T.C. machine permit transfer to office and field C.C. Control standby equipment.



FIELD STATION DISCONNECT

To locate definitely a faulty field station, the "field station disconnect" button is operated to open the pre-line circuit for 15 seconds. This prevents transmission of indication codes from all field stations. By sending recall codes to individual stations, the one at fault is located, after which all except this station are restored to normal.



STATION CODE RECALL

When the "recall" button is operated in conjunction with a code-starting button, only the first part or "station-calling" portion of the particular control code is transmitted. This feature is used to advantage when locating a faulty field station as it eliminates the "control" portion of the code.

***... have been added
to "Union" C.T.C.***



ENGINEERING advancements in the "Union" system of Centralized Traffic Control have kept pace with the widespread employment of this means of expediting traffic and increasing track capacity quickly.

With one of the new features called C. C. Control any practical amount of territory and number of functions may be controlled from any selected point over a two-wire multiple line. Many installations using this feature are in service in extended territories.

Another feature solves a rare but troublesome problem which is caused by operation of a faulty field station. With the "field station disconnect," the operator at the C.T.C. machine can locate quickly the faulty field station and place it in an inactive condition so that it will not continue to interfere with the operation of the system.

UNION SWITCH & SIGNAL COMPANY

SWISSVALE, PA.

NEW YORK

CHICAGO

ST. LOUIS

SAN FRANCISCO

The Week at a Glance

HIGHWAY EXTRAVAGANCE: Bills now before Congress calling for the expenditure of \$3 billions of federal money for post-war highways are critically examined in an address by Connecticut's highway commissioner, reported herein. Such expenditure—to be matched by only 25 per cent of state money and apportioned without regard to varying actual highway needs from state to state—will result in waste, viewed purely from the standpoint of the welfare of highway transportation alone. We present Mr. Cox' analysis—not only as a thoughtful contribution to a subject of interest and importance to all transportation people, but also to draw attention to the fact that in formulating practical transportation policy, this nation is still utterly in the hands of pressure groups and selfish local interests.

SUCCESSFUL SUPERVISION: The supervisor who boasts that he "treats all men alike" might just as sensibly proclaim that he applies the same heat treatment to all kinds of steel. Some foremen seem to believe that tact is inconsistent with honesty—but the absence of tact changes leading into driving. You make people like and respect you, by liking and respecting them first. A successful leader observes the rules that he asks his subordinates to obey. These and other principles of success as a supervisor are outlined herein in a thoughtful paper by C. M. House, the Alton's s. m. p.—whose view is essentially that of Chaucer's honored priest, who taught his flock the way to go, "but first he folwed it himself."

SOME PASSENGER CARS: Mr. Eastman at a press conference on December 20 reported an improved outlook for the construction of railroad equipment in the coming year. The railroads, he said, have been reluctant to order equipment in large quantity—because of uncertainty whether they would be permitted to amortize the outlay in five years as a war expenditure—but this obstacle has been removed by presidential order. The O. D. T. director also believes that more alloy steels will be available for equipment construction—thus making the equipment a more attractive purchase than if "ersatz" standards were continued. He even believes that, maybe, the carriers may get some passenger cars. Box cars are the short item. While rolling stock construction is at a high level, Army and lend-lease are drawing heavily on the result—our Russian allies being especially favored.

INTEREST IN PERSONNEL. There appear to be few subjects of professional consideration by railroad men which, these days, arouse more interest than problems of dealing with personnel. As evidence of this wholesome and heartening development we cite a letter herein from New York Central Vice-President Horning, who had a comprehensive article, discussing these problems, in this paper not long ago and reports a large response by way of letters, inquiries, and requests for reprints.

VS. THE GOVERNMENT: The strike ordered on the railroads for next week, the leading editorial herein makes clear, is an act of coercion directed against the government of the United States—not against the railroads. A governmental emergency board said to the railroads: "Pay the ops an increase of 4 cents per hour"; Stabilizer Vinson approved the order; and the railroads promptly obeyed it. The dissatisfaction of the unions, because of which they called their walk-out, is thus, designed as punishment of the nation for an act of a government board—and is not an application of pressure on the railroads, which did all the law would permit them to do for the disgruntled unions. In view of the complete innocence of the carriers of any shred of responsibility for this threat to the nation's safety, it is strange to read the usually-accurate Louis Stark in the New York Times to the effect that the President, in summoning railroad and union officers to the White House "divided his blame about evenly among the employers and employees." If that be true, one wonders what course of action, excepting ceasing to exist, remains to an employer who wishes to avoid occasion for presidential censure.

PRESS VIEWS ON STRIKE: Some sections of the daily press have discussed the threatened strike with unusual depth and understanding—and a few representative quotations therefrom are presented on a page herein. Especially noteworthy, in your observer's opinion, are the expressions quoted from the New York Times, the Washington Post, and C. P. Ives in the Baltimore Sun. Whether one agrees with these writers or not, he cannot deny that their writing gives evidence of thorough inquiry into the facts. By their recent activities, the railway unions—especially the operating brothers—have pretty well exhausted their former comfortable reputation which used to induce editorial writers, whenever these unions appeared in the news, to sound forth in praise of their "conservatism," "loyalty," "Americanism," and other such homely virtues, without ever bothering to check to see whether the facts gave support to such an opinion in a particular case.

F. D. R. IS CRITICIZED: The New York Times has been especially penetrating of its analysis of the strike issue, and particularly of President Roosevelt's handling of it. Of this it says, "the President has violated every sound administrative principle. He has failed to lay down clear rules. He has failed to delegate power clearly, and to one top agency alone. He has failed to support the administrators and agencies to whom he has delegated power. He has allowed the unions to appeal to him over the heads of his administrators, and he has intervened in particular decisions." Those familiar with the principles of sound administrative procedure and with the facts in this case will have little difficulty in arriving at an opinion of the accuracy of Times' observations.

"BLACK MARKET": The so-called "black market" in passenger accommodations is being worked on by O. D. T. and the railroads, Mr. Eastman says, but the railroads believe these reports are exaggerated. That may well be, but it is comforting to those who have heard the carriers and their employees damned for complacency at the evils natural to a sellers' market to be assured that efforts are being made to mitigate the most reprehensible of all possible affronts to the customer, and one most likely still to rankle when travel business is being solicited again. Conspicuous castigation of such scalawags whenever caught should help to dispel the harmful impression erroneously prevalent that the carriers are tolerant of their operations.

WELCOME TO "TRACKS": The Chesapeake & Ohio Lines' magazine has appeared for January with a new name, a new format, and a revised editorial content—changes which put the publication in the very front rank of attractive company publications. The first issue in the pocket-size dress contains some distinguished reading matter—including an article by Colonel Leonard P. Ayres on the future of the railroads which in its broad interest and authoritative quality would do credit to one of the "slick" magazines of national circulation.

THEY FEAR COMPETITION: Parts of the aviation press are daily waxing more hysterical lest the monopoly of the specialists in that field be subjected to competition from companies, which, emulating the department stores, would offer the customer more than one form of transportation in the same shop. In fact, in one group of such periodicals, the plaintive pleas of the editors to the politicians, for pity's sake, to save their specialty stores from competition by department-store transportation, appear in rather ludicrous juxtaposition to the eloquent printed sermons their own publisher is uttering to the effect that business must accept competition, or risk the loss of its freedom. The department-store idea may or may not be in transportation as useful and economical a device as it has proved to be in the field of consumers' goods—or the publishing business—but the answer will never be known unless competition is given a chance.

PRIVATE CONTROL'S MERITS: In a press conference this week, commemorating O. D. T.'s completion of its second year, Director Eastman said that the transportation industry wanted to show what it can do, and has done a "superlative job"—with the co-operation of shippers and, "to a lesser extent, the traveling public."

RECORD RAIL OUTPUT: Production of steel rails in 1942 totaled 2,096,159 tons—the largest figure attained since 1930. Pretty close to three-fourths of this rail was of sections larger than 100 lb., but there was a surprisingly large increase in the 60-85 lb. category, possibly because of war demand.

FREIGHT OR *Passenger* *They must be kept in service*



Never before has railroad equipment been called upon to stand the punishment inflicted by the demands of the present war emergency.

Longer, heavier trains, greater speed and continuous service made imperative by the limited number of cars available, put an excessive strain on cars and equipment.

National Draft Gears lighten the burden, by absorbing the blows incident to train make-up and operation.

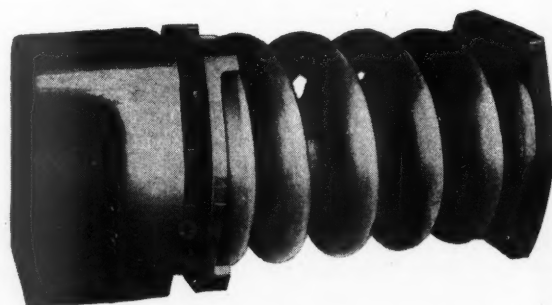
There is a "National" gear to suit every requirement.



NATIONAL M-17-A DRAFT GEAR
22 $\frac{3}{8}$ " long
A.A.R. Approved



NATIONAL K-4 DRAFT GEAR
Designed especially to meet the requirements of high speed passenger service.



NATIONAL M-50-B DRAFT GEAR
20 $\frac{1}{8}$ " long
A.A.R. Approved

NATIONAL MALLEABLE AND STEEL CASTINGS CO.

General Offices: CLEVELAND, OHIO

Sales Offices: New York, Philadelphia, Chicago, St. Louis, San Francisco

Works: Cleveland, Chicago, Indianapolis, Sharon, Pa., Melrose Park, Ill.

RAILWAY AGE

The Threatened Railway Strike

There is a vitally important fact that the public should know about the railway strike which doubtless will still be threatened when this editorial is published. That fact is, that there is at present *no dispute between the labor unions and the railways*. The disputes are *between the labor unions and the government of the United States*. If there is a strike, it will be a strike *solely to coerce the government*.

There are two important disputes. One is between the government and the unions of operating employees, who have been ordered to strike on December 30. The other is between the government and the unions of non-operating employees.

The "operating" employees are the locomotive engineers, firemen, conductors, brakemen and switchmen, the highest-paid of railway employees, and among the highest-paid workers in all industry. A board appointed by President Roosevelt recommended an increase for them of 4 cents an hour, which the railways are willing to pay and which has been approved by Economic Stabilizer Vinson. The unions' leaders rejected the recommendation as an "insult".

The "non-operating" employees are all who do not participate in the movement of trains or in switching. Another board appointed by President Roosevelt recommended an increase of 8 cents an hour for them. Economic Stabilizer Vinson rejected this on the ground that it would give increases to some employees exceeding the "Little Steel" formula adopted by the government to prevent advances in wages that would cause inflation. At the request of President Roosevelt there was subsequently a renewal of negotiations between the railways and labor leaders. This resulted in agreement on 8 cents an hour, which Mr. Vinson again rejected; and another board appointed by the President recommended graduated increases of 4 to 10 cents an hour. Mr. Vinson approved this recommendation; and it was acceptable to the railways because the cost to them of either 8 cents or 4 to 10 cents an hour would be about \$200 million annually. The labor unions preferred 8 cents, threatened to strike rather than accept 4 to 10 cents, and are promoting with prospective success a resolution by Congress to require that the advance be 8 cents.

That the railways and the American people should be threatened by a nation-wide railway strike in wartime as a result of such a series of developments seems preposterous beyond belief; but, nevertheless, it is a fact. Railway owners and management have absolutely no responsibility for the situation. It is due wholly to an impasse reached by an administration which for a decade has been promoting, backing and coddling labor unions and by some very powerful labor leaders who don't care a hang what anybody has done for them in the past, who always know what they want, and who are always ready to use whatever means may be available to get it. These same operating unions, when the nation was face to face with war in 1916, held a strike threat over Congress until it passed the Adamson Act, and, then, until we were almost in the war in 1917, held the same threat over the Supreme Court until it sustained that act.

If a strike should occur, the government could seize the railways. But the government would still have, as manager of the railways, the same disputes with the labor unions that it has now when it is not manager. It would still have to settle its disputes with the unions after adoption of government operation; so why not settle them without adopting government operation?

One thing, at least, about the matter is quite certain. If government operation is adopted either to prevent or end a strike, with the

Efficiency
FOR VICTORY

railways overwhelmed with a wholly unprecedented and still increasing traffic, both freight and passenger, the nation speedily will be confronted with worse transportation in World War II than at any time in World War I. And government and labor unions will be solely responsible for it.

Effect of the War on Progress in Track

It is often said that periods of war are periods of rapid technological progress and that many of the advances made during such periods are retained when peace comes. There is much truth in this statement. In the present conflict, the aircraft and rubber industries first come to mind, and there are many others.

On the other hand, it is not readily apparent that the war is having any such direct effect on the improvement of railway tracks and of the means of maintaining them. Generally speaking, railroad men have been too closely occupied with the immediate problems involved in maintaining their tracks with insufficient men, materials and equipment to give much thought to projects for improving them. Some few improvements have been introduced but they have been brought out in spite of, rather than because of, wartime conditions and, moreover, their application generally is being retarded by these conditions.

It is true that several new and improved rail sections have been designed during the last two or three years, but these must remain largely on paper until the present restrictions on the rolling of new sections can be removed. Another casualty of war has been the trend toward the general adoption of a longer rail. The desirability of going to a length longer than 39 ft. had been a subject of discussion for several years, and it was not far removed from crystallizing into definite proposals when the war intervened and put a stop to further consideration for the duration.

Research projects undertaken by the railroads, either jointly or individually, to solve specific problems relating to the track structure have likewise been retarded or halted altogether by wartime conditions. This also applies to some extent to the development efforts of companies which supply the railroads with tools, machines and materials used in track maintenance work. Because of personnel and material problems, stemming at least in part from the fact that they are heavily engaged in production for war, many such companies have not been able to give much time or attention to the development of improved products. On the other hand, there are other companies that have developed improved machines and materials but which are prevented from introducing them to the railways until the end of the war.

Nevertheless, there is a strong undercurrent of thought and activity that augurs well for the future. For instance, as a result of their wartime experience,

track men in general have become more than ever conscious of the importance and value of mechanized equipment in track maintenance, and the post-war period will see an accelerated trend in the direction of greater mechanization. Also, there is a growing accumulation of ideas pointing to new and improved machines and materials, most of which must necessarily await the end of the war before they can be translated into realities. In addition, one effect of the record traffic load being carried by the roads has been to bring to light any weaknesses in the track structure, and there is an increasing determination to take such steps as may be necessary to correct these defects as soon as conditions permit.

The picture presented is one in which progress, rather than being stopped, has simply been dammed up by the wall of wartime restrictions. In view of this situation, it can be expected that, immediately following the removal of these restrictions, there will be a period of relatively rapid development in the track structure and in the equipment and methods employed in maintaining it.

Putting the Railroads in the Middle

The assessor of Cook County, Illinois, in which Chicago is situated, has announced that he will make a 170 per cent increase in the tax assessment of all property in the county. This is to be done by raising the assessment base from 37 to 100 per cent of property valuation.

The announcement has met with ringing protests from numerous civic bodies and individuals, who look upon the increased assessments as giving the tax spenders a wide open opportunity to get more money out of the taxpayers. The assessor contends that increasing the assessment should make no difference in tax bills because the tax *rates* (for which he is not responsible) would be reduced proportionately to make the tax bills about the same as heretofore. Experience with tax eaters prevents any comfort being derived from that contention. In addition, taxing bodies are limited in bonding power to 5 per cent of total assessments; hence the increase would greatly raise the bonding power of every taxing body in the county. It is common gossip that one purpose of the increased assessment is to make it possible for Chicago to issue bonds to acquire the city traction properties for municipal operation.

As so often happens in such controversies, the railroads are being put in the middle and raked by the cross-fire of the contending parties. One newspaper editorial has referred to the assessor's proposal as a "\$3,000,000 gift to the railroads." The assessor, on the other hand, has publicly said that the railroads now have a "tax advantage" which "amounts to a

subsidy" and has intimated that they have resorted to dark and devious means to escape their proper share of the tax burden. These things are not true. The situation of the railroads can be very simply stated. It is purely a matter of arithmetic.

In Illinois the tax assessment of railroad property is determined, not by the county assessors, but by the state department of revenue, formerly called the state tax commission. The department of revenue sets the assessment of each railroad property in the state, and that assessment is divided among the counties for taxing purposes, chiefly on the basis of the mileage in each county. Naturally the department of revenue has to equalize railroad assessments with assessments of other property, and this is done by using a statewide average of the assessment bases used by the local assessors in the various counties. The bases now used in the various counties range from 25 to 75 per cent of valuation. The average as determined by the department of revenue is 31 per cent. In striking this average, the base used in Cook County is weighted 50 per cent because 50 per cent of the property assessed in the state is in that county. The effect of increasing the assessment base in Cook County would, therefore, be to increase greatly the weighted average for the state as a whole. In fact, the department of revenue has indicated that the statewide average would be increased from 31 to 60 per cent.

The resulting increase in railroad taxes would be staggering. Presumably there would be some temporary decrease in Cook County, but the taxes on all railroad property in Illinois outside Cook County would be approximately doubled. Instead of paying about \$9,000,000 a year, the railroads would have to pay about \$18,000,000 a year in the downstate counties.

Naturally, the railroads will have to resist. In so doing, it should be made perfectly clear to everybody that they do not now have and are not seeking any tax advantage. The records show conclusively that they bear their full share of the tax burden. They should not bear less than their share; but certainly they should not bear more when subjected, as they are, to the competition of other carriers that are largely supported by taxes in carrying on their business.

Railroads' Post-War Prospects

National income is going to be greater after this war than it has been previously because the volume of industrial production is going to be larger. . . . A large proportion of this added output of goods will be carried by the railroads. . . .

Post-war prospects for the railroads are bright, rather than gloomy. No industry that was moribund could have achieved such a record of efficient performance as the railroads have during this emergency. No future federal administration which believes that we must remain powerful among the nations is going to forget that the railroads are an integral part of our national strength.

—Col. Leonard P. Ayres, *Economist for the C. & O.*, in the *C. & O.'s Sprightly New Magazine "Tracks"*

Business Strives for More Socialized Transportation

With all the fervent pledges to "free enterprise" principles now being made by manufacturers who fear competition from government-owned plant in the post-war period, it is interesting and significant to note a publication issued recently by a manufacturer whose products are used in highway construction.

This house organ calls the attention of its readers to a recent change in the federal-aid highway law, whereby federal funds can now be used, not only to build highways, but also to purchase the land therefor (a charge which formerly had to be met by state and local governments). Other provisions of recent highway legislation which are mentioned with approval in the publication include a federal appropriation of funds to defray the cost of planning post-war highway construction projects by state highway departments, and authorization of the Commissioner of Public Roads "to make a survey of the necessity for a system of national express highways."

The publication then goes on to say:

"All of the above provisions are distinctly helpful to the state highway departments in preparing their plans for post-war highway construction. Now it is up to the individual state highway department to take advantage of the favorable conditions established and immediately proceed with their planning and preparation. All of us can help this program along by urging the state highway departments and their officials whenever we contact them and impressing them with the importance of having a shelf of projects ready for contract letting when the post-war period begins.

"There is still the problem of the provision of the funds to finance the construction of the large post-war highway program that is contemplated. That is a hurdle that is yet to be met and which will probably not be solved until after the war is over. However, if proper and adequate planning is accomplished and completed when the war is over, the opportunity for obtaining the necessary funds will be materially enhanced. Let us all promote this idea with anyone and everyone that can help at every opportunity.

"We cannot leave this subject without a word of credit to Charles M. Upham, Engineer-Director, American Road Builders Association, Washington, D. C., who did the really effective work with the Congressional committees in supplying them with the information necessary to form the basis of the new legislation outlined above."

The above instance is not cited in special criticism of this particular company, because its failure to apply the principles of free enterprise in its consideration of transportation is, unfortunately, not an isolated case—but an endemic afflicting almost all of the business community. Privately-financed railroads have to face exactly the same kind of unequal competition from government-built and tax-free plants (e. g. highways, inland waterways, airports) that manufacturers fear they may have to face in the post-war period from government-owned war plants. The manufacturers are overlooking an opportunity to win converts to their alleged convictions on the subject of government competition with business by their conspicuous failure to do unto others as they would be done by.

Highway Program Fosters Waste*

Proposal for federal government to spend \$3 billions, matched only 25 per cent by states, would disregard highway needs in apportioning funds

By William J. Cox

Connecticut State Highway Commissioner

HOUSE of Representatives Bill 2426 and identical Senate Bill 971 represent the proposals sponsored some months ago by the American Association of State Highway Officials for a federal post-war highway program. The bills have been referred to the respective Roads Committees of the House and the Senate and it is understood that hearings before the House Committee will be held in January, 1944. The proposed legislation would authorize a three billion dollar three-year program, one billion dollars for each of the three years immediately following the war. Provision is made for matching by the states on a 75 per cent federal, 25 per cent state basis. The bills provide that the three billion dollars be apportioned between the states $\frac{1}{2}$ on the basis of population, $\frac{1}{4}$ on area and $\frac{1}{4}$ on post road mileage.

Of the purpose of the bill—to improve the nation's highway facilities through carefully matured plans, executed under competitive bids by private contractors—I offer no criticism. As to the amount of the proposed federal appropriation, I would say this. It should be examined carefully from the standpoint of the abilities of the public and private agencies concerned to accomplish the resulting volume of work without inefficiency of expenditure of public funds, and without interference with private enterprise along other lines. On the other hand, I am firmly convinced that the amount of expenditure under consideration does not exceed the immediate needs of rehabilitation, modernization and expansion of the nation's street and highway facilities. Such an expenditure, if devoted to the proper projects, well planned, and at reasonable contract prices, can be regarded as a wise investment.

I insist, however, that this proposed program is no normal federal highway aid program. It does not involve just an additional three years' appropriation. Chart 1 shows that. When it is proposed that there be annually an eight-fold expansion of the 1942 appropriation, it is evident that we are dealing with new conditions, for which the past affords no certain precedents. This proposal must be weighed not merely in the light of the past, but strictly upon its own merits. Three billion dollars of federal money in a single piece of legislation is enough to have an identity all its own.

The proposed bills have two major weaknesses—the proposed basis of apportionment to the states, and the proposed basis of federal-state participation in expenditures.

The proposed apportionment $\frac{1}{2}$ on population, $\frac{1}{4}$ on area and $\frac{1}{4}$ on post road mileage represents a modification of the old federal highway aid formula which

weighted each of these factors $\frac{1}{3}$. The $\frac{1}{3}$, $\frac{1}{3}$, $\frac{1}{3}$ formula was originally established in 1916 and has been used in all regular federal aid authorizations since. The fact that the framers of the pending legislation have made a change from the traditional formula establishes the fact that even they recognize the inequity of attempting now to use the 1916 formula. While the framers of the legislation have made an attempt to modify the old formula, in this modification they made no attempt to take advantage of the large amount of factual information now available regarding the road systems and road needs of the states. Even the most enthusiastic supporters of either the old federal aid formula or the proposed modification would have to admit that it is expecting the impossible to trust in some combination of population, area and post road mileage to provide an accurate reflection of the road needs of the states.

In 1916 it might have been justifiable to use these three factors as measures of road need since we then had practically no data regarding the road needs of the states or of the factors which determine such needs. However, since then there have been tremendous changes in the character of our roads and in the motor vehicle traffic which they serve. It seems self-evident that the more perfectly a formula fitted the 1916 problem of getting the country out of the mud, the less likely it would be to meet the most serious 1945 problem of breaking the stranglehold of traffic congestion. Furthermore—and fortunately—through the state-wide highway planning surveys which have been conducted in all of the states under the joint sponsorship of the Public Roads Administration and the state highway departments, we now have comparable factual data on roads and traffic in all of the states.

Scientific Data on Road Needs Now Available

We certainly do not now have to rely on population or area or even on road mileage to gage our road needs. Many of the states, encouraged and assisted by the Public Roads Administration, have utilized the planning survey data in the solution of their state problems of taxation and of grants to local authorities. It would seem that now as the federal post-war program is being shaped it would be almost criminal not to use the factual data, the collection of which has cost millions of dollars in federal and state funds. These data lie ready to hand and form an ideal basis for the determination of the actual road needs of the states.

Without having the benefit of such completely comparable estimates of road needs as could be readily prepared by the Public Roads Administration acting in co-operation with all of the states, we have been able to

* Abstract from a presentation to the Ninth Regional Conference on Highway and Motor Vehicle problems, New York, December 18.

make some evaluations which definitely establish two things. One is the need for such completely comparable estimates before the tremendous appropriation of three billion dollars is authorized for apportionment to the states, and the other is the great inequity in the proposal as it now stands when compared with the best available measures of road needs of the states.

Outlays Don't Match Needs

In response to the request of the American Association of State Highway Officials in July, 1943, the state highway departments of all the states furnished the Association with their own estimates of their immediate road needs. These estimates, giving a U. S. total of seven billion dollars, were published in the October issue of "American Highways." Chart 2 illustrates by length of bar for each state the relation between the amounts of federal funds which would be allotted under H. R. 2426 and the estimated road needs of the state. Our reasonable aim should be to progress at a uniform rate, throughout the nation, in correcting our highway deficiencies—to correct, in the period under consideration, the same fraction of the deficiencies in one state as in another. From the tremendous variation shown in Chart 2 it is obvious that the proposed apportionment is tremendously inequitable. It would more than meet the needs of some states while leaving those of others almost undiminished.

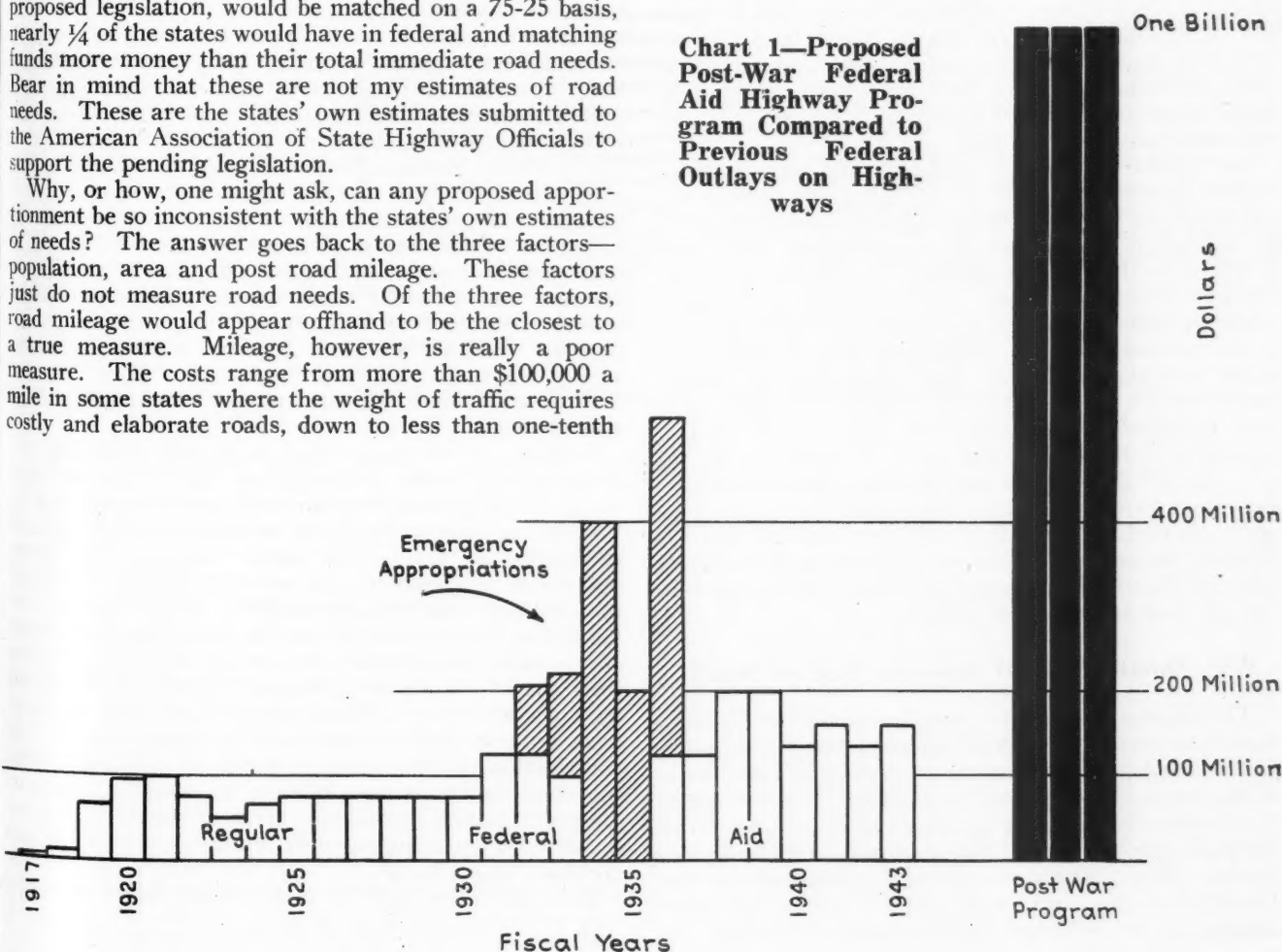
The feature of Chart 2 so striking that it hardly needs to be pointed out is that under the proposed legislation some states would actually receive *in federal funds alone* a greater amount than they themselves have estimated as being required to meet their immediate highway needs. When it is recognized that the funds, even under the proposed legislation, would be matched on a 75-25 basis, nearly ¼ of the states would have in federal and matching funds more money than their total immediate road needs. Bear in mind that these are not my estimates of road needs. These are the states' own estimates submitted to the American Association of State Highway Officials to support the pending legislation.

Why, or how, one might ask, can any proposed apportionment be so inconsistent with the states' own estimates of needs? The answer goes back to the three factors—population, area and post road mileage. These factors just do not measure road needs. Of the three factors, road mileage would appear offhand to be the closest to a true measure. Mileage, however, is really a poor measure. The costs range from more than \$100,000 a mile in some states where the weight of traffic requires costly and elaborate roads, down to less than one-tenth

as much in other states where conditions of traffic, or of geographical features or of climate pose much less difficult problems. Obviously, road-miles are not comparable in cost of improvement from state to state. Without modification based on factual evidence, road-mileage is a very poor factor for the evaluation of road need. Population may be a slightly better factor; area not so good.

The foregoing has treated the proposed apportionment of funds under the pending legislation from the standpoint of road needs. This was the basis upon which the American Association of State Highway Officials insisted that the apportionment of funds should be considered and upon which the program is sponsored. However, it must be recognized that a program of this magnitude will not be authorized at this time except for the value generally credited to public works in the relief of unemployment conditions as are likely to occur in the period immediately following the war. Therefore, regardless of the basis of determining how the apportionment shall be made between the states, the relationship of that apportionment to the probable need for public works is significant. The Bureau of Labor Statistics of the U. S. Department of Labor published in the Monthly Labor Review (July, 1943) estimates by states of military and industrial demobilization expected following the war. Comparison of the proposed apportionment of funds, with these estimates indicates that there is a very poor relationship between the apportionment of funds and the need for public works as based on the Labor Department's estimates. It is particularly significant that, in general, the states which are unfairly treated when the program is viewed from the standpoint of road needs, are similarly treated from the standpoint of the

Chart 1—Proposed Post-War Federal Aid Highway Program Compared to Previous Federal Outlays on Highways



prospective post-war need of employment on public works.

One of the justifications offered for the magnitude of the proposed federal post-war highway program has been the fact that federal collections of taxes on gasoline, oil, motor vehicles, tires, automobile use, etc., have been considerably in excess of the amounts the federal government has been returning to the states as federal highway aid. It has been argued that these special taxes upon the road users of the country should be dedicated to highway purposes. However, if this argument is carried to a logical conclusion the apportionment of funds between the states must be consistent with the federal tax collection on road users from the states. It is pretty generally recognized that the travel on even our most important interstate roads is largely local in character. If it is argued that taxes collected from road users should be devoted to expenditure for their benefit, the apportionment to the states might well be much in proportion to the collections from the individual states. From whatever viewpoint the proposed federal post-war program is sought to be justified, the proposed apportionment of it is wholly inconsistent and unreasonable.

Matching of Funds

A provision in our basic federal highway aid legislation has been that each dollar of federal funds must be matched with a dollar of state funds. (Through a special provision an exception is made in favor of a few states with large areas of public lands.) Because the federal government has not heretofore participated in the costs of right of way, the state's share of the total improvement cost has actually somewhat exceeded 50 per cent. The pending legislation would permit the costs of right of way to be treated like any other one of the costs entering into the building of a road, so that the federal government would actually participate in all costs and the dollar-for-dollar matching basis, if it were maintained, would result in a true 50-50 sharing of costs. To me this seems sound and proper.

The legislation, as now proposed, however, provides that the matching shall be on a 75 per cent federal—25 per cent state basis. I can see absolutely no reason why the federal government should, now or at any other time, be asked by the highway officials to shoulder $\frac{3}{4}$ of the cost of building their roads. National Park roads, access roads to military reservations, and like facilities may, in the national interest, justify financing in large part by the federal government. But, normal federal highway construction?—No. All of the studies of recent years have indicated the predominantly local use of roads—even of such interstate roads as U. S. routes 1, 20, 40, etc. The 75-25 proposal has the appearance of being a dangerous extension of the trend, which is now so generally decried, of the states looking more and more to Washington as the source of all funds of public expenditure and Washington extending further and further its control over largely local matters.

Why Should Federal Treasury Pay So Much?

The obvious question is—why has the 50-50 matching basis been revised to a 75-25 basis? It may be seen that as this legislation has been drawn, a considerable number of the states are subsidized to a greater or lesser degree by a relatively few states—such states as New York, Pennsylvania, California, Massachusetts, Maryland, New Jersey, Ohio, Michigan, West Virginia, Illinois and Connecticut—the very states which are discriminated against by the proposed apportionment. Whether they

actually do, or not, it would appear that the subsidized states wish to obtain the largest possible portion of their road cost from federal taxes. In that way the cost is shifted in large part to other states. Quite apparently it is extremely advantageous for states near the top of Chart 2 to contribute only $\frac{1}{4}$ of the road cost rather than $\frac{1}{2}$ of it.

In the first place, in that way they have their roads built with minimum cost to themselves. In the second place, if this bill were drawn on a 50-50 cost sharing basis, these favored states in some cases would not be able to raise the large amounts of money required to match their exceedingly liberal apportionment of federal funds. In the third place, if these states would match the federal funds equally, the resulting total would be utterly incommensurate with their road needs. It will be noted from Chart 2 that on a 50-50 matching basis many states, taking both the federal and state funds, would under the provisions of the bill have far in excess of their estimates of immediate needs. The proposed distribution, obviously inequitable as it is, becomes wholly absurd if matched in the usual 50-50 way.

An equal matching is required by wise economy. Surely at this time, this country cannot afford extravagance. We may be the richest country in the world; we are unquestionably the country with the largest federal debt. Yet I know of no surer way to put extravagance into road building than to cut down the proportion of state supplied funds. State officials are held much more strictly accountable by the people of their states for the expenditure of state funds than they are for the expenditure of funds that come out of Washington. There is an unreality about Washington money.

People just do not realize that money from Washington costs anything.

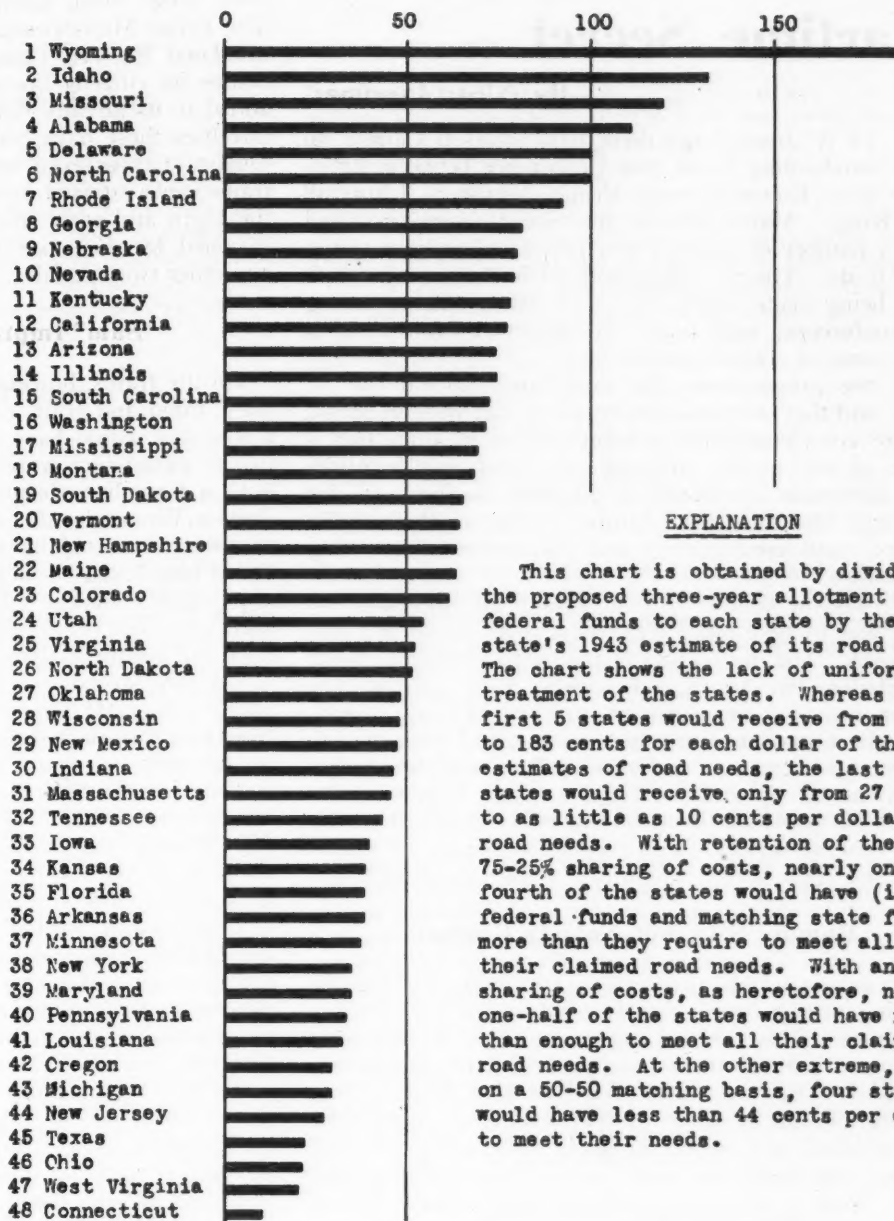
I know of no surer way to produce a splurge of road-building extravagance than to pass this bill—which puts unprecedentedly huge sums of federal money, with a minimum of stabilizing state money, into states to which this federal money will be pretty much a gift; states where commensurate highway needs do not exist, and where, far from merely taking up a slack in employment, the federal funds will cause shortages of contractor's labor and of contractors, with resultant lack of competition and extravagant bid prices. I think it probable that we could wisely spend three billion dollars of federal money on road improvements, if the sum were properly distributed and if it were stabilized with a proper admixture of state funds. But I do not see how we can endure the extravagance of this bill as it is now drawn.

I know of no reason that is openly advanced for dropping the states' participating cost of 25 per cent except the argument that there will not be enough money in state highway treasuries to enable them to meet their allotments on a fifty-fifty basis. Neither, of course, will there be money in the national treasury—a detail that perhaps has been overlooked. If it is proper for the federal government to borrow this money for roads, why should not the states borrow, as necessary, to meet their share? As to debt, Senator Tydings of Maryland has recently said:¹ "Most cities, states and counties have reduced their indebtedness in recent years. The contribution of the federal government towards unemployment should be less than it has been in the past. The contribution by local government should be greater in view of the changing debt status of the nation and the local governments."

It would seem hard to find a more fallacious argu-

¹ National Crushed Stone Journal, September, 1943—page 12.

Cents per Dollar



EXPLANATION

This chart is obtained by dividing the proposed three-year allotment of federal funds to each state by the state's 1943 estimate of its road needs. The chart shows the lack of uniform treatment of the states. Whereas the first 5 states would receive from 100 to 183 cents for each dollar of their estimates of road needs, the last 5 states would receive only from 27 cents to as little as 10 cents per dollar of road needs. With retention of the 75-25% sharing of costs, nearly one-fourth of the states would have (in federal funds and matching state funds) more than they require to meet all of their claimed road needs. With an equal sharing of costs, as heretofore, nearly one-half of the states would have more than enough to meet all their claimed road needs. At the other extreme, even on a 50-50 matching basis, four states would have less than 44 cents per dollar to meet their needs.

Chart 2—Proposed Apportionment of Federal Money to States in Relation to a Dollar of Each State's Road Needs

Data from October, 1943, "American Highways"

Source of Data: October 1943 issue of AMERICAN HIGHWAYS

ment than the argument that the federal participation in road construction should be increased to avoid necessity for borrowing by the states. However, if the proposed federal appropriation is apportioned with reasonable regard to road needs, most of the states would not need to borrow in order to meet their commitments at the rate required. Their highway treasuries will be building up while the work progresses. The basic trouble lies in the faulty apportionment.

If any states are unwilling to match federal highway aid dollar for dollar, their reasons for their unwillingness should be carefully examined for their soundness.

There is another important reason why all of the states should insist on an equal matching of federal funds with state funds. Only in that way can the states retain a reasonable influence in the shaping of their own highway systems. If the states are willing to accept from the federal government three-fourths of the cost of their roads, they must be willing to yield to the

federal government a preponderant voice in determining the characteristics of their roads.

It is true that more than half of the states would fare much better under the distribution proposed in H.R. 2426 than under any other. But it is also true that those states have far less than one-half of the country's population. It is also true that a dozen states that are severely discriminated against by this bill have half the population of the country, half the membership of the House of Representatives, and nearly half the membership on the Roads Committee of the House. When these members of the House and of its Committee have reviewed the facts of this situation, it is impossible to believe that they will support the bill as now drawn. The necessary and important thing is to see that the situation is understood; and not only to accomplish the defeat of the legislation in its present form—which I believe practically everyone now concedes—but to accomplish the passage of wise and intelligent legislation in its place.

A Well-Kept Wartime Secret

By Albert Gardiner*

A FEW months ago there took place in Canada an outstanding event—the Conference between President Roosevelt and Prime Ministers Churchill and King. Many railway movements were involved with a number of which I was privileged to have something to do. The prevailing note while the arrangements were being made, while they were taking place, during the conference, and while the dispersals were taking place, was, of course, secrecy.

All the preparations the Canadian National had to make, and they were manifold, varied and wide in scope, —were completed with possibly not more than half a dozen of our people knowing just what was in mind. The movement involved, in addition to those of the President and the Prime Ministers, that of their staffs, officers, employees, guards, and documents of terrifying importance.

The arrival of the British Prime Minister and his party was to take place on X-day at an Eastern Canadian port. The destination of the first movement, which consisted of two trains, was Quebec City. X-day was only a few, but an unknown number of, days ahead, when the Canadian National was first told what an important job it was to undertake. Two complete trains had to be set up and sent to the port. Food supplies had to be provided, staffs assigned. The withdrawal from general service of two complete trains of equipment and their staffs constituted a major job in itself.

Rumors Rife, but Nobody Guessed

The most complete precautions were taken for the safe handling of these trains and for the security of those using them. Hundreds of employees had to be entrusted with some part of the arrangements that ensured this condition. They were told what they were to do. That was all. To all of them, the extraordinary instructions they received and, more so, what they were not told, bespoke that something most unusual was about to take place. None of them knew what it was. Some decided the Pope was coming. Others took a shot in a different direction and were sure it was Mr. Stalin. Some, wishfully thinking perhaps, decided Their Majesties were to encharm us with a return visit—perhaps to stay with us for the duration. Still others thought Bagdolio, or even Hitler and his gangsters were coming out to sue for peace. All sorts of rumors—and not one that hit the mark—took the place of knowledge.

My own first actual contact with the party was made when, with one of my associates, I had climbed a Jacob's ladder, and, greatly relieved, stood on the deck of a mighty ship. We were able, by the time the ship docked, to provide for each passenger to go directly to assigned space on one of the two trains and for each one to find his baggage already in the space. This last was possible by the fact that we had the services of about one hundred bright young Royal Marines. They had come out as guards and had all been picked out on the good conduct and smartness basis, for this trip of their lives.

So completely was secrecy maintained, that Prime

Minister Churchill was actually occupying our C. N. R. president's business car on the special train before the train crew, even, knew just what their job involved. The Prime Minister was hundreds of miles from the still unnamed Eastern Canadian port at which he arrived before its citizens knew what a chapter their city had added to its already rich history. Special trains are not novelties these days between the Atlantic Seaboard and Quebec City or even beyond, for that matter. The two trains ran westward over the Canadian National through the night and early morning. No more notice was occasioned by their passing than would be called up by any other two specials. They were just two other extras.

"Sam" Impresses British Wrens

On the trains, however, much of interest was happening. Food and fruit, especially oranges, disappeared in a way that would have done credit to a Lucullus. Most of the passengers were making their first acquaintance with a Canadian sleeping car. A carload of charming British Wrens, by the way, were captivated by the skill of their porter as he made down the berths. (They called him "Sam" which seemed more friendly than the unpleasant "George" sometimes used by unthinking travelers here.) Some of them, with Sam's consent, tried the job themselves.

The late forenoon of the next day found the trains at Mont Joli (200 miles east of Quebec City). Up to this time, they passed through the countryside unnoticed, but at this point a Canadian automobilist recognized Prime Minister Churchill who was taking an airing with our president, Mr. Vaughan, on the station platform. Paul Revere could not have done a better job. Neither the news of the coming of the Armada, nor of the battle of Waterloo was spread more effectively.

Unnoticed up to that point, immediately we left Mont Joli behind it was clear that the news of our coming had preceded us. Workers in the field, children at play, women in their windows and in the gardens, watched us pass and waved us the two-fingered Victory sign that Churchill has made famous.

At Riviere du Loup (115 miles east of Quebec), a crowd thronged the approaches to the station and the cross streets. The Prime Minister made an appearance. Beyond Riviere du Loup up to the point where Mr. Churchill left the train, near Quebec, the news had not reached. The parade of automobiles from the station to the Hotel at Quebec naturally attracted some attention. The entrance of the Prime Minister to the Citadel, however, was noticed but by a few. During the conference and since I have met many people who had seen the delegates moving hotel-wards. All told me that they did not know what was taking place until they saw in next morning's paper what had happened.

A Real Test of Organization

In addition to the party from Britain, both on its movement to Quebec and at dispersal, the Canadian National also handled the United States and British parties from Washington to Quebec and return, as well as the President of the United States from Quebec to Ottawa and on his homeward way. Again, most secret and complicated movements were carried out with watchlike precision. And, again, the right hand, hundreds of right hands, did not know what hundreds of left hands were doing, or rather for whom they were doing it. But each did its part, and another test of its organization was with high success passed by the carrier's staff.

* Assistant General Passenger Traffic Manager, C.N.R. This article is abstracted from an address made by Mr. Gardiner at Gananoque, Ont., on December 2.



Some Press Views on the Strike Threat

Norfolk Virginian-Pilot

One thing is certain: there is not going to be any strike, or, if the brotherhoods do walk out and leave the trains standing, the strike will not last long. A railroad paralysis in the midst of a war in which the railroads are playing a more important role than ever before in American history cannot and will not be tolerated—and the brotherhood's assertion that a strike is long-range patriotism is poppycock, and dangerous poppycock into the bargain. . . .

New York Times

For the labor crisis that now confronts us, the Administration must bear the chief responsibility. Why are the nation's railway workers now threatening to strike, in spite of the disastrous effect that such a strike could have at this time upon our domestic economy and upon our war effort? Obviously they make this grave threat so lightly because they do not expect to have to carry it out. They and other unions have in nearly every important case in the past got essentially what they wanted by threatening to strike. Even in time of war it has been the government, not they, that capitulated. The past policies of the Administration and Congress now lead them to believe that they have everything to gain by a strike threat and little, if anything, to lose.

The railway unions proved in 1941 that they would not hesitate to reject proposed Presidential board awards that they did not wholly like. In effect, the President in 1941 told an emergency board that it had brought in the wrong answer and must try again. Ostensibly the board was asked to change its decision because of "new evidence." But every one knew that in reality the most important item in that new evidence was that the unions had rejected the first award of the board and had threatened to strike. The strike was averted by the governmental agencies' compromising with unions as they would never have dreamt of compromising with management.

This 1941 incident proved once again that not only as against employers but as against governmental recommendations it was not a disadvantage for a union to threaten to strike but an advantage. The railway unions were not penalized for threatening to hold up the national defense; they profited by that threat.

At about the same time John L. Lewis also profited by calling a strike. He struck against another governmental decision, a decision of the National Defense Mediation Board denying him the closed shop in the "captive" coal mines. On Nov. 14, 1941, the President declared that "the Government of the United States will not order, nor will Congress pass legislation ordering, a so-called closed shop." Nevertheless, the President appointed another board, which did reverse the Mediation Board and grant Mr. Lewis the closed shop.

This pattern, laid down at the time of Pearl Harbor, has since been repeated. Mr. Lewis' miners struck four times; and they were eventually rewarded with substantial wage increases, thus putting other unions on notice that even in wartime they stood to gain rather than to lose by striking and threatening to strike. Yesterday, when the President was conferring with the railway operating unions which had issued a strike call, George M. Harrison, spokesman for the uninvited non-operating employees, who had not yet issued a strike call, drew what seemed to him a not illogical deduction: "Maybe it pays to get tough." . . .

C. P. Ives in the Baltimore Sun

Because a pro-labor Administration has refused to give the rail unions what they demand they are ready to launch a blow at the nation's comfort, its health and its victory in a global war. How do they get that way?

The story of how the rail unions get that way is a simple one. They know they probably won't have to strike, or if they have to strike, that the strike won't have to last very long. They

know that the strike in the hands of an intransigent union leader in these days is like a political pistol at the head of the President and the Administration in general.

The rail unions know that despite Mr. James F. Byrnes' pious suggestions to the contrary, no one, so far, in government has had the simple courage to command the unions to lay that pistol down. The rail leaders know that what the government does do is hand over whatever the pistol-packing union leader wants.

This is really the one consistent rule on which the Administration conducts its war labor policy. It was, indeed, in an earlier wage case involving these same rail unions that a government agency actually had the hardihood to put this rule into words.

They were, of course, \$5 words, but their meaning was unmistakable despite their length and their sonority. Said the President's special mediation board in the great railway wage dispute of 1941:

Public officers, when called upon by parties to help them settle a controversy by the process of mediation, cannot ignore the acceptability of any proposed settlement to the particular party which has the greatest economic power to enforce its demands in a labor dispute.

Now the parties in the present labor dispute are, of course, the rail unions and the United States government. The United States government has plenty of economic power, but even in war it has been afraid to use it against the unions on whose political support, as the current Attorney General has confessed, the Administration depends for its victories at the polls. Hence, for all intents and purposes, it is always the unions which have the greatest economic power to enforce their demands on the government. And those unions with impudence enough to use that power get what they want. . . .

New York Herald-Tribune

What, it may be asked, has been holding the civilian war effort together these last two years if it has not been the unquestioning patriotism of Americans in every walk of life? It is perfectly true that while the overwhelming majority of citizens ask only, 'What can I do to help?' there is a selfish minority whose attitude at every stage has been, 'What can I get out of it?'

Such predatory groups, especially when they are strongly organized, can and do, unhappily, succeed in turning national emergencies to their personal financial advantage. But two wrongs do not make a right; and the fact that some groups may be called upon to make greater sacrifices than others does not give the former the right to assert their claims to equal treatment at the expense of the national war effort. . . .

Atlanta Constitution

That the railroads should halt transportation in the midst of war is unthinkable, treasonable and must not happen. The people do not believe the brotherhoods, composed of patriotic Americans, will allow it to happen.

Washington Post

The controversy behind this threat [of the operating unions] must be carefully distinguished from that involving the pay of the non-operating railroad unions. In the latter case the unions are demanding compliance with the recommendations of an emergency board and with a promise made to them by the President. On the contrary, the operating brotherhoods are threatening to strike against the recommendation of a similar emergency board. In other words, the non-operating unions are asking that the orderly processes of law be allowed to take their course, while the brotherhoods are trying to break away from a recommendation evolved from the sound procedures of the Railway Labor Act. To strike under such circumstances would be utterly irresponsible and inexcusable. . . .

We hope that the brotherhoods will take a thorough sounding of public opinion before they bring the wrath of a fighting Nation upon their heads.

What Qualities Make a Supervisor?

Good judgment, fairness, and interest in employees and ideas needed—Knowledge of work, human understanding, personal integrity and inspiring leadership important

By C. M. House

Superintendent Motive Power and Equipment, Alton

IN modern mechanized warfare the most essential factor is the ability to produce the vast amount of material which is required. American railroads could easily prove the bottleneck in this stupendous production effort. They have been and still are badly handicapped because of the lack of essential materials to enlarge the plants and equipment to meet the emergency. Obviously the mechanical department having charge of the construction, maintenance and repair of the equipment is quite decidedly on the spot. This means we must exercise our ingenuity to the limit and make a maximum use of the facilities and equipment at our disposal.

Not the least of our difficulties is the fact that so many of the workers in the mechanical department have been, and still are being drawn into the various fighting services. The necessity now is, of course, all the greater since we are actively involved in the world war and our boys are already to be found on fighting fronts throughout the world.

The critical shortage of materials and manpower has resulted in a large gap between supply and demand in transportation. Therefore, the supervisor plays a distinct and prominent part in helping to reduce this gap. We on the Alton, and I don't doubt but what you are experiencing the same predicament on your railroad, are far short of filling our quota of authorized forces despite efforts to promote helpers and apprentices to mechanics and employing of female help in certain branches of the mechanical department. But the supervisor out on the firing line, who is face to face with these abnormal conditions, views them with calm reality and makes the best of it; interesting himself in the Nth degree, he can and will by his own ingenuity and resourcefulness overcome obstacles that would retard the efficiency of his particular department and thus continue the smooth-running machinery of the railroad. It is a tough job I'll have to admit, but by proper planning, scheduling and various time studies, a good supervisor in his dealings with the human element will be able to do it.

In my experience with supervision I have observed various shortcomings of so-called qualified supervisors in their dealings with employees. Most of us are altogether too prone to take men for granted. There are certain fundamental truths concerning the actions and reactions of men just as there are similar fundamentals upon which scientific thoughts are based. In

our study of men we do not always get the same reaction in every experiment as we do from some other subject. However, if you will observe human nature you will note the human impulses, the human desires and the human reactions which will give you a fairly conclusive idea of the elements of the man problem and just what reactions may be expected from any method of handling a group of men. I have found that the first step in a study of the man problem is a study of those things which affect men's thoughts and consequently influence their actions.

The supervising officer who is thoroughly practical and understands the technicalities of his work perfectly, but lacks one knack of handling men, has a serious problem on his hand. For example, the tactless foreman prides himself on treating all men alike, but he might just as logically take pride in applying the same heat-treatment to all kinds of steel. Men differ in analysis more widely than steels. Ordinarily steels may be successfully heat-treated when the relative contents of a few elements—such as carbon, manganese, etc., are known; and so a knowledge of a relatively few elements in human nature makes it possible to deal successfully with problems arising in shop management.

In the past it was thought that all that a foreman needed was unusual skill in his trade, so that he would know better than anybody else how the work should be performed and be able to perform it himself, if necessary; but in recent years, the functions of the supervisor have become much broader. The supervisor is virtually the manager of his department.

Foreman a Two-Way Representative

The fact cannot be escaped that one of the foreman's important duties is to be a fair and impartial representative of the shop management to the men in his department. He must also be equally fair and impartial in representing the men to the management. In plants where the men ask for shop committees, the foremen are generally one-sided representatives. If they represented the interests of their subordinates fairly before the executives of the company, no need for special committees would be felt.

The foreman or supervisor should adjust all matters over which he has authority as quickly and as fairly as possible. He can help himself a great deal by first trying to find out who or what hurt their feelings. When conditions arise that he cannot adjust himself, he should not delay in presenting the matter to a higher executive.

Many foremen seem to think that tact and diplomacy are not consistent with honesty and frankness. I believe you will agree with me that in this view they are mistaken. No useful purpose can be served by arousing a

* An abstract of a paper presented at the November 16 meeting of the Car Department Association of St. Louis, at which Mr. House was the honor speaker and received the 1943 bronze plaque award of the association, inscribed as follows: "Presented to C. M. House, superintendent motive power and equipment, The Alton Railroad, November 16, 1943, a gentleman and craftsman whose exemplary devotion to duty and the railroad industry invites emulation. Car Department Association of St. Louis."

man's resentment in pointing out an error to him, if the same error can be brought to his attention without sacrificing his good will. The difference between diplomacy and tactlessness in handling men is the difference between leading and driving.

You probably ask yourself, "How shall I make men like me?" The biggest part of the answer is simple, "By liking your men." Admiration, respect, loyalty, cannot be one-sided. Experience has taught me that the more you give of them, the more you will receive. Mutual liking leads to mutual understanding and on this foundation you can build up a strong and dependable department. At the same time you will build for yourself a real reputation as a supervisor. Remember, too, that the supervisor who has the genuine respect and admiration of his men, invariably stands high in the estimation of his superior officers. Your men constitute an interesting field of study, and in order to lead and direct men successfully a supervisor should study their attitude of mind—their point of view—what interests them, and makes them responsive to fair and intelligent leadership.

Every employee, being human, likes to know that he will be accorded an opportunity either for promotion, self-expression or appreciation, because every man has a right to high ambitions and every worker should be made to realize that demonstrated ability to assume greater responsibility will be recognized. There is an old saying, "Many a man would rather that you heard his story than that you granted his request."

You have probably noticed that it requires a higher degree of intelligence and understanding for the supervisor to handle the human side of his problem properly than to handle either the business or mechanical side. Changing conditions present changing aspects of any problem and this is particularly true of the man problem on the railroads today.

There must be the honest desire on the part of the supervisor to have his men intelligent, loyal and efficient and there should be the definite policy that every practical means will be taken to carry out this desire. The attitude of the supervisor should be such that there is no question in the minds of the employees that the railroad has their welfare at heart and will deal fairly with them under all conditions.

Patience and Courage Needed

The supervisor who has the patience and courage to gain the loyalty, fellowship and cooperation of his employees finds that team work takes the place of unit effort; that good fellowship drives out discontent; that ambition and love of work will change an inefficient organization into an efficient one. It is well worth the effort. Generally speaking, the more a man knows about his job and the better he understands its purpose, the better he likes it, and the fact should not be overlooked that no one can be enthusiastic about his work until that enthusiasm has been inspired by honest liking for whatever work is being done.

The good supervisor modernizes his thinking and constantly seeks new standards of safety, service and economy. He should educate himself in advance of his men to maintain his proper position as a leader. He must observe the rules he asks his men to observe. He must believe in the principles he asks his men to carry out; he must be competent to direct the jobs his men are required to do. I have observed that men are not inspired by proclamation alone. The mere issuance of bulletins, orders or propaganda, receives but an indifferent response from either supervisors or men. Real

inspiration comes from active, intelligent instruction and example.

Briefly, let us look at the matter from the employee's point of view. Why should the average worker believe in the sincerity of his boss' plea for safety when foremen permit or demand unsafe practices? Why should a workman believe in a plea for the necessity for economy when shop planning is so poor that he wastes time waiting for material? Why should a mechanic believe the sincerity of a supervisor in asking for good workmanship when it is impossible for him to obtain proper working equipment? It is only natural therefore that every time there is inefficient supervision anywhere on a railroad the workers who see such inefficiency on the part of supervision resent any criticism of their work. However, I believe it is generally understood that management, by its policies and through the training of its supervisors has been, and is removing the excuses that present themselves to the minds of employees as justification for inefficiency or the withholding of their best efforts. Until this is done, however, inefficiency will continue.

Working Agreements

A fundamental consideration which should be understood by the supervisor is that railroads have agreements with many classes of employees as to wages, hours of service and working conditions. The first problem is a thorough study and understanding of the working agreements in effect, as well as rulings which have been made on any controversies that have arisen over the interpretation of the agreements.

We who have sat around the table when the agreements were developed and adopted are familiar with the spirit as well as the letter of the law contained therein. However, a local supervisor and the group of men under him may neither of them be as familiar with, or as expert in their understanding of, an agreement as those who made it. Unless the supervising officer makes it his business to study them, he may misinterpret or misapply some conditions or clause with the result that a grievance will arise for settlement.

With the broader understanding of the human side of a railroad, and with the finer appreciation of the rights of the employees, there is a very general desire on the part of management to interpret any agreement on a broad and friendly basis and to live up to the spirit of the agreement, rather than to act on some technicality which someone may be able to read into the formal wording of the document.

I do not infer that the supervisor should not be firm in his decision, that he should not decide fairly with good judgment. I merely mean that the supervisor should not make the mistake of trying to read into the agreement a stern, harsh, and unfair motive where, as a matter of fact, the agreement was a friendly decision as to what should govern in the case presented for claim.

A supervisor who is fair must do more than be fair. He must educate his organization to an understanding of what fair dealing really means and to an appreciation of the advantage of dealing squarely with a supervisor who deals squarely with his men. It is not enough that he be a just judge, he must be a friend, a councilor or a stern disciplinarian, as the case may require.

No one supervisor knows everything and we are all prone to make mistakes. It is wise, however, to seek advice frequently and listen to suggestions, and it is no disgrace to admit that one has made a mistake or may be wrong about something. The supervisor who tries to give his men the impression that he is the supreme

boss, that they cannot tell him anything, who will never admit the possibility of his making a mistake, creates in the minds of his men, as you can see, a spirit to do simply what they are told to do with little or no idea than that of performing a minimum of work and keeping out of trouble.

The fact that the boss has confidence in them, that the boss is willing to listen to their suggestions even if he does not act upon them, that he is treating them as intelligent, loyal co-workers, creates a spirit of desire to do work well whether they are working under direct supervision or by themselves.

Present-day conditions impose one comparatively new requirement on supervisors, namely, inspirational leadership. In a period of constant change and betterment, new ideas are being advanced continually by management. These ideas languish and die unless individual supervisors, right down the line, have that quality of inspirational leadership that enables them to enthuse their men with an idea so that the proposition will be given the fair trial expected and demanded by management. It is important that management recognize and select men who not only have the necessary qualifications, but who have and put into effective use the personality that makes for successful administration. Good judgment, common sense, willingness to learn, abil-

ity to use experience and good advice of others, constitute some of the personal characteristics. These, when applied in the execution of ideas or policy declared by management, create opportunity for bigger, more responsible and higher paid positions, and it is only natural that the man who has aspirations views his present position as a stepping stone towards the goal as head of a department, and so on; thus, when vacancies occur, promotions are made without disrupting or impairing the efficiency of a smooth-running organization, with the result that both management and men benefit.

Finally, we, as railroad men, must continually remember the fact that in our work the man problem—the human element—is of utmost importance. Increased efficiency of railroad operation, lowering of our operating ratios, improvement of our service, increased safety of operation, all depend to a large degree upon the human element. Summing up the whole thing in a nutshell—the important thing for the supervisor to remember in handling men is the fundamental rule, and that is that old rule laid down two thousand years ago by the Son of a Carpenter, "Do unto others as ye would that they should do unto you." Supervision adopting this principle will build for themselves and their railroad good will and good reputation, based upon real service, safety and efficiency in operation and greater progress.

Rail Output in 1942 Highest in 12 Years

RAIL production in the United States in 1942 totaled 2,096,159 tons and was the largest for any year since 1930, when it was 2,098,021 tons, according to figures published in the annual statistical report of the American Iron and Steel Institute for 1942. The output in 1942 was 168,308 tons greater than in the previous year, and was 1,645,285 tons, or nearly five times larger than the 450,874 tons produced in 1932, the low point of the depression. All the foregoing figures, and those below, are in net tons.

The accompanying table shows the rail production by weight groupings for 1942 and previous years back to 1925. A study of this table shows that the increase in production as compared with 1941 was confined to three of the six weight groupings, and that in the three others the output declined. Rather surprisingly, the largest increase, both relatively and actually, occurred in the weight group including sections over 60 lb. and less than 85 lb. per yard. In this classification, the increase was 160,712 tons, or 135 per cent. Possibly due

to wartime developments, the production of rails in this category is now far above the level that prevailed during the immediate pre-war years, having jumped from 20,013 tons in 1939 to 114,666 tons in 1940.

In the weight group embodying sections weighing 100 lb. and less than 120 lb., the output in 1942 increased 104,156 tons, or 12.7 per cent, over 1941, while the production of those sections weighing 120 lb. and less than 136 lb. showed an increase of 9,312 tons, or about 2 per cent.

In the three classifications showing decreases in production in 1942 as compared with 1941, the percentage drop in output was substantial. For instance, in the weight group including sections weighing 136 lb. and over the decrease was 12,428 tons, or 23.8 per cent; in the weight group embodying sections weighing 85 lb. and less than 100 lb. the drop was 46,118 tons, or 22.5 per cent; and in the 60-lb.-or-less group the decrease was 47,326 tons, or 27.5 per cent.

Of the total tonnage of rails produced in 1942, 2,048,-

Production of Rails by Weight Per Yard—Net Tons

Years	60 lb. or less	Over 60 and less than 85 lb.	85 and less than 100 lb.	100 and less than 120 lb.	120 and less than 136 lb.	136 lb. and over	Total
1925	*183,240	†246,006	857,215	.....	1,833,027	.....	3,119,488
1926	*220,931	†287,041	893,382	.....	2,202,413	.....	3,603,767
1927	*181,256	†194,048	604,178	1,472,155	.....	.....	3,143,264
1928	*150,301	†140,813	521,240	1,348,199	691,627	.....	2,965,192
1929	*158,326	†115,297	458,783	1,381,631	804,639	.....	3,048,795
1930	*107,101	†91,055	300,024	935,756	664,085	.....	2,098,021
1931	*56,100	†28,587	138,206	555,242	518,546	.....	1,296,681
1932	*18,654	†15,350	32,024	249,902	143,944	.....	450,874
1933	55,010	17,263	45,890	17,488	175,601	.....	466,252
1934	78,495	19,164	82,476	550,639	365,055	35,622	1,131,451
1935	63,982	16,529	95,902	381,696	172,891	65,921	796,228
1936	107,644	23,629	111,956	684,910	412,687	25,402	1,366,228
1937	113,889	92,219	126,155	815,280	436,698	34,987	1,619,228
1938	50,375	27,627	57,550	371,534	188,034	2,522	697,642
1939	92,994	20,013	63,598	620,992	480,675	34,375	1,312,647
1940	140,443	114,666	225,006	688,109	486,716	24,046	1,678,986
1941	172,264	118,702	205,266	820,695	558,545	52,379	1,927,851
1942	124,938	279,414	159,148	924,851	567,857	39,951	2,096,159

* Under 50 lb. per yd.

† 50 and less than 85 lb. per yd.

723 tons, or 97.7 per cent, were rolled from open-hearth steel. While the quantity of rails produced from Bessemer and electric steels (21,334 tons) was only a small fraction of the total, it is worth mentioning that this tonnage was the highest for any year since 1923. In addition to these tonnages, the total output of rails produced in 1942 included 26,102 tons rolled from old rails and 18,885 tons of girder and high tee rails.

Railroad Dividends Lag as Nation Grows

WASHINGTON, D. C.

WHILE the earning power of American railways, as measured by dividends and by tonnage, has been declining, in relation to industrial production, since 1931, their dividend policy began to be "definitely less liberal" much earlier, that is, as far back as 1915, and, therefore, long before the depression period of the 1930's—according to an "Analysis of Steam Railway Dividends 1890-1941" recently made public by the Interstate Commerce Commission.

This study of 103 mimeographed pages was prepared by W. H. S. Stevens and E. S. Hobbs of the commission's staff. It appeared as Statement No. 4368 of the Bureau of Transport Economics and Statistics, and was issued as information, without being adopted or considered by the commission.

The publication includes tabulations setting forth data on dividend rates and amounts, by years, and on trends in payments of dividends, year by year, as compared with trends in a variety of related statistical measurements. In addition, it contains extensive comment on the significance both of these figures and particularly of the changing relationships between dividend payments and other indications of the railways' position in the national economy, such as earnings, capitalization, interest accruals, and surplus accumulations and distributions. These comments deal with the trends within the industry and also with the concurrent fluctuations of the national industrial production and national income.

A comparison of year to year changes in the indexes of national industrial production, as measured by the Federal Reserve Board, and of net railway dividends (that is, dividends after eliminating inter-company transactions) reveals considerable similarity in general trends, the study points out, but the dominant feature of the comparison is "the fact that prior to 1932 the indexes of the dividends were greater than those of production, but that since 1931 the relative positions have been reversed, and the production indexes have not only been greater, but also progressively greater."

This indication that the relative earning power of the railways has been declining is borne out, the authors point out, by a similar comparison developed in another study of the bureau, its Statement No. 4257, dealing with fluctuations in freight traffic as related to production trends, which was outlined in *Railway Age* of September 12, 1942, page 414. As one explanation of this shift in relationships between the indexes, they remark that in recent years, and particularly in 1941, the index of production reflects a high output of trucks, airplanes, ships, and other finished products that leave the point of manufacture under their own power, and so require less railroad transportation service than commodities that weighed more heavily in the indexes of earlier years.

Comparison of railway dividend trends with national

income trends and with the trends of dividends paid by all corporations likewise indicates a relative decline in the significance of railway dividends in the national economy, the study shows. Again the cause is found to a considerable extent in changes outside of the railroad industry, however, particularly with respect to the comparative dividend figures. This development results "to an unknown extent" from the more general adoption of the corporate form of business, say the authors, so that dividends of all companies in the later years of the period to an increasing degree reflect the incorporation of businesses not included in the dividend tabulations when they were operated by individuals or partnerships, while railroads almost invariably have been incorporated companies since their organization.

At one time, in the years 1910 and 1911, railway dividends amounted to 1.04 per cent of the entire realized national income, as compared with 0.22 per cent in 1941 and only 0.16 per cent in 1938. In 1911 railway dividends amounted to 15.6 per cent of the dividends of all companies, while 30 years later they amounted to but 4.6 per cent of the total. In terms of index figures, taking the average for the period 1899-1941 as 100, the peak year for the railways was 1930, when the index was 196, while the poorest showing was made, as would be expected, at the beginning of the period, when an index figure of 37 was shown for 1899. In 1938, however, the index was almost as low, having declined to 40. The index of realized national income on the same basis reached its peak of 187 in 1941, while its next best year was 1929, when it reached 166. Its low was 32, in 1899, but after 1917 it dropped below 100 only twice, in the depression years 1932 and 1933, and then its low was 93, in contrast to the low mark of 40 in the rail dividend index. Such tabulations indicate, the authors remark, that up to 1917 the rail dividend index was consistently "very much above" the others, while after 1931 it was consistently "very much below."

Income Retained in Business

As the relationship between dividends and earning power is influenced by the amount of net income retained in the business, the practice of the railroads in this respect from year to year is analyzed in the study. To offset the effect of stock dividends—which, the authors point out, do not withdraw any assets from the business but merely capitalize surplus or earnings—the distribution of dividends over a 34-year period is examined to develop the relationship between asset or cash dividends only and the net amounts retained in the business.

In this period, beginning in 1907, during which the roads reported a total income of more than \$15 billion, they distributed as cash and asset dividends charged to income a little more than \$7 billion, and transferred to surplus about \$8 billion, or 52.8 per cent of net. At the same time, however, payments of almost \$5 billion in dividends charged to surplus reduced the aggregate amount retained in surplus to \$3.28 billion, or about 21.7 per cent of net. The average annual retention during the period thus was about \$95.2 million.

This "relatively poor showing," the authors explain, is due to the high proportion of depression years included in the period for which the data were available, the effect of which is especially evident in the interval from 1930 through 1939, when in nine of the ten years the total cash and asset dividends declared was more than the net income for the same years by an average of \$148 million per annum.

The authors then pointed out that even these figures

showing retention of net income in the business are influenced by the roads' practice with respect to depreciation charges on fixed property in the period covered by this study. They then calculate that the "total unrecorded depreciation" in the 27-year period from 1915 through 1941 would amount to about \$1,837 million. In the same period the total net income of all railways was \$11,423 million and the total of cash and asset dividends paid was \$8,918 million. If the unrecorded depreciation is subtracted from the balance after dividends of \$2,504 million, the total net income retained in the business becomes less than \$667 million for the whole period, or an average of less than \$25 million per annum.

This result again reflects the influence of the depression of the 1930's, the authors explain, when the railroads' surplus was "gravely depleted" both by operating losses and by the payment of interest charges and dividends not earned. A similar series of calculations applied to the "prosperous" 15-year period from 1915 through 1929 indicates that the roads were able to retain in the business a total of over \$2,523 in excess of cash and asset dividends, after allowing for unrecorded depreciation, or about 3.7 times as much as the net accumulation left at the end of 1941. "Had it not been for these 1915-1929 retentions, dividends would quite probably have not been so well maintained and perhaps an even larger number of railroads would have fallen into the hands of receivers or trustees," the authors remark.

Common Fared Better Than Preferred

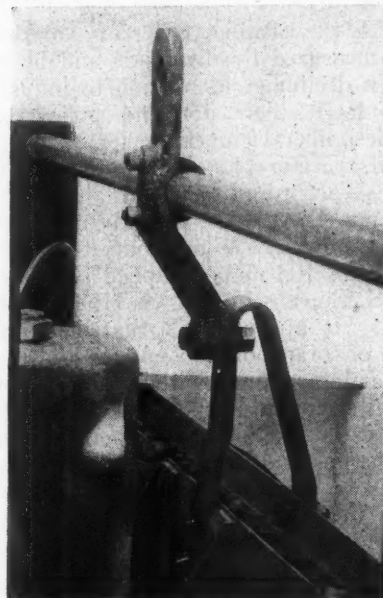
The study of railway dividends is further extended to include an analysis of the effect of the over-all trends on the dividends paid on common and preferred stocks, particularly in the period since 1927, in which the peak of the "boom" era and the depth of the subsequent depression were felt. In most respects, the authors point out, the effects of the depression were somewhat more pronounced, relatively, for the preferred than for the common stocks. "From the highest to the lowest year the number of preferred issues and the total amount of preferred stock paying dividends both fell off relatively more than did the corresponding dividend paying common issues and amounts of common, and the amounts of preferred dividends declared decreased more percentagewise than did the amounts of common dividends."

For the entire 15-year period dividend-paying common stock averaged a rate of 7.19 per cent, while dividend-paying preferred averaged only 4.65 per cent. This reflects the fixed rate usually associated with preferred issues, of course, the authors remark, but the fluctuations in the annual payments on dividend-paying preferred nevertheless were "very substantial," ranging from 5.96 per cent in 1936 to 3.04 per cent in 1938.

These relationships are studied in some detail, and the authors resort to a variety of statistical manipulations in an effort to develop an explanation for the relatively better dividend showing of common stocks as compared with preferred in the depression period, concluding with an analysis of the relative positions of cumulative and non-cumulative preferred issues. This showed, they explain, that relatively more non-cumulative than cumulative issues and stock remained in the dividend-paying category during the "lean" years, although the average rate paid on the cumulative issues was higher than on the dividend-paying non-cumulative stocks.

Fairmont Front-End Draw Bars for Motor Cars

FAIRMONT RAILWAY MOTORS, INC., Fairmont, Minn., has developed a front-end draw bar for three of its standard section cars, the S2, Series E, ball bearing engine model; and the S2 Series F and the S2 Series G, roller bearing engine models. The draw bars will fit either the one-speed direct belt-drive cars, or the two-speed gear-driven cars. To install the draw bars on cars requires only the drilling of two holes in the flange of the front cross beam of the frame.



Close-Up of the New Front-End Draw Bar

These draw bars permit the motor car to tow trailers when traveling either forward or backward and eliminate the need for turning the car around when the direction of travel is reversed.

Communication . . .

Lively Interest in Personnel

NEW YORK

TO THE EDITOR:

In your issue of November 6 you published an article written by the undersigned entitled "Personnel Practices" and I have noticed with interest a few communications to the editor in subsequent issues.

You will be glad to know, I am sure, that since that article was published I have received dozens of requests from representatives of railroads throughout the entire country asking for copies of the article, and dozens of letters commenting favorably upon it—not alone from railroad men but government officials and others. Apparently the article has served to stimulate thinking on this important subject.

What I said was not at all new. Personnel men have said it in the same words or otherwise on many occasions previously, but somehow or other this particular article seems to have inspired a lot of comment and thinking on the subject. That is just what it was designed to accomplish, and I am personally gratified at the response.

L. W. HORNING
Vice-President, Personnel, N. Y. Central

Railroads-in-War News

Hopes Improve for More Equipment

Eastman sees some chance, even, that a few passenger cars may be built

Director Joseph B. Eastman of the Office of Defense Transportation foresees for 1944 an improved situation with respect to the production of railroad equipment and supplies, including perhaps opportunities for the acquisition of some new passenger cars. Discussing the outlook at a December 20 press conference, the O. D. T. director cited such favorable developments as the easing materials situation, plans for better control of production schedules to minimize "slip-pages" experienced in the past, and President Roosevelt's executive order continuing under War Production Board authority arrangements to amortize war facilities over a five-year period.

Mr. Eastman prefaced his optimistic prediction with references to the 1942 and 1943 situations when W. P. B. did not authorize as much equipment as O. D. T. wanted; and when there was also considerable "slip-page" in production as compared with the official schedules. As noted above, he expects the latter situation to be improved.

Lately, he went on, the O. D. T. has been having difficulty getting from the railroads sufficient orders to take up the equipment allocated. As to that, however, the O. D. T. director hastened to explain that the railroads' reluctance to place orders was due in large part to uncertainties as to whether the five-year amortization privileges would be continued, following the recent termination of the War and Navy departments' roles as certifiers. Clarification came in President Roosevelt's December 17 executive order transferring to the chairman of the W. P. B. the authority to issue the required necessity certificates. As noted in *Railway Age*, December 11, page 953, placing of orders for some 10,000 freight cars awaited this clarification.

Another factor, as Mr. Eastman put it, has been the fact that the railroads, "like many others," began to see the end of the war and to think about the time when they would have to resume normal competitive operations. Hence they looked more critically at the equipment being offered, which "has not been 100 per cent of the best type." But this situation, Mr. Eastman thinks will also improve. He cited W. P. B.'s recent decision to approve the construction of all-steel freight cars in 1944, thus abandoning the policy of insisting upon the so-called composite type. Moreover, the O. D. T. expects that it may get more alloy steels for use in freight car and loco-

motive construction in the coming year.

"The railroads feel and we are inclined to feel," Mr. Eastman added, "that sufficient provision will be made for locomotives. We are more concerned about box cars." In the latter connection, he pointed out that there has been a shortage of cars to move the grain crop. Also, he noted that freight car construction in this country has been at a high level, but much of the equipment has been going abroad under lend-lease arrangements or to the American forces. A substantial amount has gone to Russia, he said.

Mr. Eastman's optimistic reply to the question about the prospects for new passenger cars next year was based on the easing of the aluminum situation. Meanwhile a press release issued in connection with the press conference expressed O. D. T.'s hope "that some new passenger equipment will be authorized for 1944 in view of the tremendous increase in travel and improvement in the outlook for materials." The release also revealed that O. D. T. expects that in 1944 "a minimum of 2,000,000 net tons of rail will be delivered." Deliveries for 1943, it noted, will total 1,485,000 net tons.

W. P. B. Appointment

Lemuel R. Boulware, who has been deputy controller of shipbuilding for the War Production Board, has been appointed operations vice-chairman succeeding Hiland G. Batcheller. The Transportation Equipment Division is one of the W. P. B. units to come under Mr. Boulware's direction.

Call for House Investigation of Rail Accidents

"Full and complete" investigation of 1942 and 1943 railroad accidents by a select committee of the House of Representatives is proposed in House Resolution 388, introduced by Representative Capozzoli, Democrat of New York. The committee would consist of five members of the House, designated by the speaker.

"It shall be the duty of the committee," says the resolution, "to make a full and complete investigation of railroad crashes and other accidents in the United States in 1942 and 1943, occurring on railroad lines, with the view of ascertaining all pertinent facts relating to the construction and maintenance of railroad locomotives, cars, tracks, and other equipment and facilities, the management and operation of such railroad lines, the laws and regulations, and the administration of laws and regulations relating to operation and inspection of railroad lines, safety equipment and devices, the advisability of establishing a system of priorities for passengers traveling on railroads, and any other matters which such committee may deem it necessary to investigate. . . ."

Transport Not Over Hump, Says Eastman

But O. D. T. director hails the "superlative job" done in past two years

Marking the completion of the Office of Defense Transportation's second year of existence with one of his rare press conferences, Director Joseph B. Eastman on December 20 answered all kinds of questions, discussing such subjects as the strike threat, the outlook for equipment, proposals for travel rationing and freight priorities, black markets in reservations, cross-hauling, and the railroad situation in Western territory. At the same time O. D. T. issued a press release highlighting "some of the accomplishments and the major problems in various fields of domestic transportation."

Getting under way with his general remarks, Mr. Eastman conceded that two years "isn't very long," but he nevertheless suggested that "it's pretty good so far as a war agency is concerned." On the whole, he added, the O. D. T. has the same organization with which it started. As Mr. Eastman put it, it is "the same team," and he thinks he has been "most fortunate" in his staff.

He paid tribute to the transportation agencies which during the past two years have done "a remarkable job," carrying heavier and heavier loads with "meagre" supplies of equipment. In the latter connection the trucks have been "the worst off." The job has been done, Mr. Eastman explained, by getting maximum utilization out of equipment, cooperation of the transportation companies with each other, the "excellent cooperation of the shipping public," and "to a lesser extent, the traveling public."

Taking it all together, Mr. Eastman called the performance "a superlative job." He added that the transportation industry wanted to show what private enterprise could do; and "they have shown, for management and operation has been in their hands." Nevertheless, they are "not over the hump." The O. D. T. director looks forward to the months immediately ahead as "the worst so far, and I hope the worst there will be." Thus the O. D. T.'s current drive for a 10 per cent increase in efficiency. The press release estimated that freight traffic in 1944 will amount to 757 billion revenue ton-miles, an increase of three per cent over this year. Travel, including organized troop movements, is expected to total about 100 billion revenue passenger-miles, an increase of about 15 per cent.

First questions asked of Mr. Eastman

related to the operating employees' strike threat, and his comment is included in the report on that controversy which appears elsewhere herein. Next came his discussion of the equipment situation and outlook which is covered in a separate story appearing on the preceding page.

Talking on a question about the prospects for travel rationing, Mr. Eastman conceded that conditions are "very bad," but he went on to reiterate O. D. T.'s previously-expressed view that the rationing cure would be "worse than the disease," when administrative difficulties, especially the manpower situation, are considered. Meanwhile, O. D. T. is pushing the "don't travel" campaign, being convinced that it has had an effect, "especially in cutting down peaks." Also, recent polls show "a continuing decrease" in what O. D. T. considers unnecessary travel.

Moreover, Mr. Eastman has a "late report" to the effect that passenger traffic officers "now regard the situation as under control." He hastened to add, however, that "the pressure has got to be kept up," especially to cut down short-haul holiday travel. O. D. T., as Mr. Eastman put it, will not adopt any rationing program, "except as a last resort in certain sections or on certain routes. We don't foresee that now."

The reported "black market" in passenger reservations is something the O. D. T. and the railroads have been working on, Mr. Eastman said. He cited the rule prohibiting the making of reservations for more than 30 days in advance, and the fact that the railroads are investigating every report of an alleged "black market." The carriers, the O. D. T. director added, believe that such reports are exaggerated. He went on to speak of reports that trains for which travelers were denied reservations have left stations with vacant space, explaining that some of that is due to the fact that connections are missed by persons holding reservations for the space involved. Also, he pointed out that some people making tentative plans for a trip have enough money to pay for accommodations and not worry much if they forfeit such payments upon a change in their plans for the trip.

As to freight priorities, Mr. Eastman said that O. D. T. still wants to avoid them if possible. And he believes it can. Its views on cross-hauling remain the same, i.e., that O. D. T. does not know enough about individual industry problems to become the prime mover; it is a job for the W. P. B. industry committees. The O. D. T., as Mr. Eastman otherwise put it, is in "very general agreement" on this matter with the so-called Truman Committee's recent report on transportation which was reviewed in the *Railway Age* of December 18, page 981.

Meanwhile, the O. D. T. director pointed out that "quite a lot" has been done on the elimination of cross-hauling in the case of petroleum, chemicals, pulp and paper, steel and rubber tires. And O. D. T. is "working continually" on the matter with the Army, Navy, and other government agencies. Mr. Eastman thought it fair to say that "substantial gains have been made through voluntary methods."

He added that compulsion would cause such initial confusion that it should be avoided if possible. Moreover, the O. D. T. director doubts whether workable orders cutting down cross-hauling could be devised in time to be of much importance within the next three critical months.

Asked about the situation in western territory, Mr. Eastman called it good. He pointed out that the opening of the Mediterranean had diverted some shipping from Pacific to Atlantic ports, and that further use could be made of Gulf of Mexico ports and perhaps the Panama Canal. A large share of the credit for keeping the western situation liquid was given by Mr. Eastman to W. F. Kirk, O. D. T. regional director at Chicago, who has issued "more than 100 orders" diverting cars away from tight situations.

Use More Copper to Speed Work Locomotive Builders Told

Builders of locomotives and component parts thereof have been cautioned by WPB not to apply too rigidly the prohibition against copper in locomotive parts. Copper may be used if it will prevent delay in the production schedules. E. W. Roath, Administrator of M-9-c, has notified all manufacturers of locomotives and component parts as follows:

"We have been advised by the Transportation Equipment Division of the WPB that manufacturers of locomotives and component parts have interpreted paragraph (c) (1) of Conservation Order M-9-c so rigidly that it has greatly delayed the production of vital equipment.

"Paragraph (c) (1) of Order M-9-c has the effect of prohibiting the use of copper or copper-base alloy in the manufacture of component parts for locomotives only in instances where the production of such parts from a less scarce material is practical. The use of a less scarce material is not, however, deemed to be practical if the substitution causes an excessive delay in the production of an essential locomotive component part, or appreciably reduces the efficiency of the part.

"The above statement is not applicable to articles or uses included on the Combined List inasmuch as Paragraph (a) prohibits the use of copper or copper-base alloy in the production thereof. Non-operating and decorative uses, or use for installations and equipment, mechanical or otherwise, such as bases, frames, guards, standards and supports, have been included on the Combined List."

Annuity Payments Reach All-Time High in October

Employee annuity payments in October reached an all-time high of \$9,246,000, according to the November issue of the Monthly Review of the Railroad Retirement Board. Pensions for the month amounted to \$1,363,000 and survivor payments to \$612,000. All certifications totaled \$11,221,000, a slight decline from the peak reached in September.

Annuities in force at the end of the month numbered 134,804, with an average payment of \$66.25, the report continues. Pensions numbered 23,319 with an average

monthly payment of \$59.09. The in-force figures for survivor annuities and death-benefit annuities were 3,509 and 600, respectively, with average monthly payments of \$31.86 and \$35.44. Lump-sum death benefits certified during the month totaled 1,237, with an average payment of \$369.49.

Unemployment insurance operations in October continued at a very low level, with both claims and payments declining further, the report states.

The board anticipates that seasonal unemployment during the winter will not result in increased unemployment insurance benefits, because most of the workers laid off will be absorbed immediately within the industry.

Applications for certificate of benefit rights in October numbered 470, about one-third the number received a year ago. Only 1,963 claims for benefits were filed, as compared with 10,913 filed in October. Benefit payments for the month numbered 1,452 and amounted to \$38,020.

During the month, 304 benefit accounts were opened for unemployed railroad workers, while only one account was exhausted. In the fiscal year ending November 1, 1,706 accounts were opened and 47 were exhausted.

The employment service made 29,246 placements in October, or 10 per cent more than in September. More than 240 employers in the railroad industry were furnished workers in 234 different occupations. Inter-regional placements numbered 1,669, including 239 made on national clearance orders. More than half of the workers were sent to the San Francisco region.

A study of 374 cases in which annuitants returned to work for the war period shows that 95 occupations were represented. Five-sixths of the returned workers had technical skills or supervisory experience. Their ages ranged from 50 to 83 years, with an average age of 67 years and 7 months.

Gifts for N. & W. Servicemen

Nearly 3,000 furloughed employees who are now in the armed forces will each receive from "their Norfolk & Western Family on the home front" a substantial and a useful Christmas package. Every parcel will contain a saddle-stitched leather writing case and stationery, a toilet kit including razor blades, tooth paste, etc., a book of war humor by popular cartoonists, candy and peanuts and a genuine four-leaf clover "good luck" charm in a plastic transparent case. The card accompanying each gift pictures a streamlined N. & W. passenger locomotive in two colors, a snow-covered Christmas tree, and a pledge of continued support to members in the fighting forces.

Delays Order on Government Freight Stored at Ports

The Office of Defense Transportation has postponed from December 20 until January 10 the effective date of its recently-issued order which would require government agencies to obtain permits for shipments of import and domestic freight to or within port areas for storage in public warehouses. The order is Amendment No. 1 to General Order ODT 16.

GENERAL NEWS

Fatal Accident on The A. C. L. at Buie

Derailed cars of southbound train are sideswiped by northbound train

President C. McD. Davis of the Atlantic Coast Line has supplied the following clear and concise account of the accident at Buie, N. C., on December 16: "Southbound Tamiami Champion (West Coast) Train 91, consisting of 18 conventional type all-steel passenger equipment cars, drawn by a Diesel locomotive of three 2000-horsepower units derailed its three rear cars, which were two Pullman sleepers and a diner, at a point two miles north of Buie, N. C., at 12:50 A. M. December 16, due to a rail breaking under the train.

"The head portion of the train broke loose from the derailed cars and stopped about six-tenths of a mile south of the derailed cars. After stopping, the conductor saw steam escaping from between cars on the head end and, upon inspection, found draw-heads broken on two of the head-end cars and steam connection broken on a third car. The fireman was instructed by the conductor to go out to flag the northward track against the approach of northbound trains. The flagman went back protecting the southward track beyond the derailed cars.

"While other members of the train crew were engaged in the work of recoupling the head portion of the train, northbound Tamiami Champion (East Coast), Train No. 8, consisting of 16 conventional type all-steel passenger equipment cars, drawn by a Diesel locomotive of three 2000-horsepower units, approached on northward track at 1:28 A. M. and, although the fireman had gone ahead to protect the northward track, No. 8 was not stopped, and sideswiped the three derailed cars of No. 91's train which were leaning toward the northward track at an angle of 45 degrees.

"The three Diesel units and eight cars on the head end of Train 8 were derailed. The eight rear cars did not derail. The eight derailed cars stood in order behind the engines as follows: 1 passenger-baggage car, 2 coaches, 4 sleepers, 1 dining car. One passenger in the derailed cars of 91's train was fatally injured. Seventy-three passengers on Train No. 8 were fatally injured, 52 of whom were service personnel and 21 civilians. Fifty-four passengers were reported injured.

"The double-track main lines at this point are equipped with automatic block signals and automatic train control. The Sperry Rail Detector Car was run over this section of the southward track on

Stumping the Answer Man

When Archie Hepburn, one of the experts in the information bureau of the Canadian National at Winnipeg, first undertook the duties of the information desk, he admits that on one occasion he was completely stumped. During the first night there was a telephone call.

"When can I get a train to Uno?" queried the voice.

"Where are you going, madam?" asked Mr. Hepburn.

"Uno."

"I don't know. Tell me where you are going."

"Uno," shrieked the angry voice.

"Why don't you have a man there who knows something?" "They do, madam, but just now he is out to supper. Can you call again later?"

After hanging up the receiver, Mr. Hepburn checked the time table and to his surprise, found Uno located on the C.N.R. between Rivers, Man. and Melville, Sask.

October 17, 1943, and no defects in the rail that broke under Train No. 91 were discovered by that inspection. This rail was manufactured in the year 1937."

Intrastate Fares in Alabama and Kentucky

Examiner C. E. Stiles has recommended Interstate Commerce Commission findings that no undue prejudice to persons or places in interstate commerce or unjust discrimination against interstate or foreign commerce results from refusals of the Alabama Public Service Commission and the Railroad Commission of Kentucky to permit railroads serving those states to bring their intrastate fares up to the interstate level. The proposed reports are in No. 28963, the Alabama case, and 29000, the Kentucky case.

Railway Age Passenger Survey Put in Congressional Record

Senator Nye, Republican of North Dakota, inserted in the December 15 issue of the Congressional Record a summary of the railroad industry's post-war plans with respect to passenger service, as reported in the *Railway Age's* fifth Passenger Progress Annual, the issue of November 20, 1943. Mr. Nye pointed out that the *Railway Age* survey covered "major roads in all sections of the country"; and he suggested that the findings would be of interest "to the Congress and especially to the Senate committee now devoting itself to post-war planning."

Talk Concessions as Strike Date Nears

Non-ops issue Dec. 30 strike call as Roosevelt urges settlement on ops

Both the operating and the non-operating railway unions' wage controversies advanced toward a show-down early this week as the non-ops issued a strike call for December 30 while the ops were conferring in Washington, D. C., at President Roosevelt's request in an effort to work out some settlement that would be acceptable to them and still meet the requirements of the government's stabilization formula, and so avert the strike they had previously called to begin also on December 30.

Announcement of the non-ops' strike call was made during the evening of December 21 by Bert M. Jewell, chairman of the committee handling the wage increase negotiations for the so-called 15 co-operating unions. "More than one month ago," said Mr. Jewell, "98 per cent of the 1,100,000 non-operating railroad employees represented by the 15 co-operating railway labor unions voted to strike. For more than 15 months these employees have patiently sought to secure reasonable and long overdue increases in wages, but have been unable to effect an adjustment. The heads of these unions today granted permission to the employees to carry out their decision to strike at 6 a. m. December 30, 1943."

Frequent White House Callers.—

Also late on December 21 an announcement from the White House disclosed that a meeting that afternoon between President Roosevelt and the heads of the operating brotherhoods had not resulted in a settlement of that wage controversy, and the ops' strike call at that time had not been rescinded. Their meeting with President Roosevelt was the third in three days. It was understood that proposals of supplementary wage adjustments in addition to the four cents per hour increase approved in their case by Economic Stabilization Director Vinson were under consideration, but it appeared at that time that they were disposed to demand greater concessions than were offered when the meetings with the President began.

Predictions that the Administration would give ground before the threat of a nationwide railroad strike and undertake to make effective some wage adjustment more attractive to the unions than the emergency board awards approved by Director Vinson were borne out by developments over the week end, at least as far as the operating brotherhoods were concerned, though the apparent loss of patience on the part

of the non-op leaders over slow-moving legislative processes added a new element to the strike picture.

The "No Strike" Pledge.—In some respects these recent developments have followed the precedent established in 1941, when a threatened strike was averted, on the eve of the nation's entry into the war, by concessions made by the railroads, under pressure from the President, that amounted to setting aside the original award of an emergency board under the Railway Labor Act because the unions refused to accept it. It was after that settlement was consummated, incidentally, that the rail union leaders subscribed to labor's wartime "no strike" pledge.

The present situation was complicated by the coming to a head at practically the same time of two controversies fundamentally different in nature. In one, the operating union leaders called a strike because they were unwilling to accept an emergency board award made under the procedures of the Railway Labor Act. In the other, the non-operating union leaders called a strike because the government's price stabilization office would not approve an award of an emergency board which subsequently was implemented as an agreement between these unions and the carriers.

Senate Did Its Best.—Mr. Roosevelt found the rail wage controversies at the boiling point when he returned to Washington December 16 from his conferences with the other United Nations leaders. The operating brotherhoods had issued a strike call for December 30 and the non-op leaders were before a House committee pressing for action by that body on the Truman-Crosser resolution—already passed by the Senate by a 74-to-4 vote—to make effective in spite of Mr. Vinson's final and complete disapproval a straight eight-cents-per-hour increase for the unions they represent.

At his press conference on December 17 the President indicated that he had not then had time to give any attention to the proposed strike and the wage situation, but would take it up promptly. He followed through with an invitation to the carrier's conference committees and the operating brotherhoods' leaders to meet with him at the White House on Sunday afternoon, December 19. When acceptance by both parties of this invitation was announced on December 18, it was also explained that the meeting of the same parties with the National Mediation Board that had been scheduled for December 20 in Chicago had been called off.

Byrnes and Vinson There.—The Sunday afternoon White House conference continued for about five hours. The parties first met with Mr. Roosevelt, and then proceeded with their discussions in the Cabinet room. The stabilization director and War Mobilization Director James M. Byrnes attended the conferences and were reported to have met the President again afterwards. A White House announcement Sunday night indicated that "a clearer understanding" had been arrived at, though no definite results could be announced. This statement was as follows:

"The President this afternoon received the committee representing the operating

brotherhoods and the committee representing the carriers and for several hours there was a discussion of all phases of the controversy as to the demands of the operating employees for increased wages.

"After conferring with the President the conferees adjourned to the Cabinet room where they conferred at length but were unable to reach final agreement. Upon adjournment of the conference representatives of the brotherhoods communicated with the members of their several committees who are now in Chicago, calling upon them to come immediately to Washington.

"It was tentatively agreed that another conference will be held by representatives of the carriers and brotherhoods Tuesday morning [December 21]. It was felt by the conferees that the meeting with the President had contributed greatly to a clearer understanding of the problems involved."

More Concessions.—Much importance was attached to the disclosure that the committees holding authority to negotiate wage agreements on behalf of the brotherhoods had been summoned to Washington, and it later developed that discussions of concessions by the Administration and the railroads had progressed to the point where Mr. Roosevelt felt justified in saying, at his Tuesday morning press conference, that he hoped the nation soon would receive, as a Christmas present, news that a general railroad strike had been averted. At that time the non-ops' strike call had not been issued.

Through Mr. Roosevelt's comments at his press conference and disclosures made by others familiar with the progress of the negotiations, it appeared that the discussions under way on December 20 and 21 had to do largely with bringing all classes of operating employees within the scope of a revised wage adjustment which would have the effect of payment of overtime on a time-and-one-half basis for hours worked beyond 40 per week, the net result of which would be an additional wage increase for these employees of around four cents per hour above the four cents awarded by the emergency board under the Little Steel formula, which they termed an "insult."

The President explained that he had told the Sunday afternoon conference that a stoppage of transportation would be the most serious thing that could happen to the progress of the war, not only because the nation depended on its railroads to keep its production moving, but because its fighting men abroad are dependent on the railroads to move to shipside all the supplies they require. At that time, he said, he did not know whether or not there would be a strike, but he hoped the Christmas present would be forthcoming.

Seeking a Plausible "Out."—Explorations of means by which provisions for additional pay equivalent to overtime could be included in the ops' wage adjustment were going on, the President indicated, because there was a general feeling that the emergency board awards had not taken care of railway employees as well, relatively, as wage adjustments in other industries had taken care of their employees in meeting rising living costs. It was a case, he indicated, where it was not only important

to carry out the law, as had been done by the emergency board awards, but in addition to do justice.

It was evident that the President was much impressed by the fact that railway employees have not been paid for overtime worked on the same basis as now prevails in many other highly organized industries. Whatever precedent there may be to explain such apparent discrimination against rail workers, he indicated, it could be corrected either by legislation or by an agreement between the carriers and their employees. He expressed hope that the conferences would result in a way being found to get the train service employees who are paid on a mileage basis within the effect of the overtime award, and that the discussions would result in an arrangement for a larger wage increase for railroad employees within the limitations of the stabilization law. To give these employees the benefit of overtime pay would only be fair, he felt, and he went on to express his concern lest the solution developed by these conferences, within the requirements of the law, be held up by what he termed "picayune" reasons.

"Where There Is a Will. . ."—While the President did not go into details as to the form the proposed wage adjustments for operating employees might take, beyond the award under the Little Steel formula, it was understood that yardmen and others working under hourly or daily rates could be covered by an overtime pay agreement, while provisions for lay-over allowances or other special payments to train service men were mentioned as possibilities that might be developed to give them substantially the same additional pay.

As the conferences continued on December 20 and 21 it was evident that there was some reluctance among the op leaders to settle on this basis. Their meeting with the President on Tuesday afternoon did not result in any announcement that an agreement had been reached, and there were indications not only that still other concessions might be exacted as the price of settlement, but that there was some opposition also to acceptance even of the emergency board's award of four cents per hour, as a straight wage increase as the primary basis for any other adjustments that might be worked out. Attention was called, too, to the issue of paid vacations for the operating employees as another complication that might interfere with a solution based simply on overtime or its equivalent.

There was no evidence that the National Mediation Board had been made a party to the negotiations under way at the White House, yet it was pointed out that the provisions of the Railway Labor Act would affect the introduction of overtime, paid vacations, or so-called occupational adjustments into a wage settlement based upon an emergency board award made when these issues had not been introduced.

Went Home Without Voting.—Meanwhile, any hope the non-op leaders may have had that favorable House action on the Truman-Crosser resolution to make a straight hourly increase of eight cents effective would be taken before Con-

gress recessed for its Christmas vacation—to extend from December 21 to January 10—was blasted by the action of the House committee on interstate and foreign commerce December 20, when it deferred a vote on reporting the resolution.

According to the committee's explanation of this action, it was taken in order to allow a special subcommittee an opportunity to consider a proposed amendment to the Truman-Crosser resolution that would have the effect of taking from the stabilization director all authority over railway wage adjustments. Mr. Vinson had informed the committee during his appearance before it last week that he recognized the right of Congress to take such action, and that as long as he held that position he would do what Congress directed him to do.

Some committee members were reported to have said before this explanation was given out, however, that there was some sentiment in the committee for deferring action on the non-op case while the negotiations that followed the ops' strike call, announced December 15, were proceeding.

Railway Unions to Be De-Vinsonized?—The purpose of the amendment to be considered by the subcommittee would be definitely to withdraw the Railway Labor Act, including procedures under it and settlements developed thereunder, from subjection to any provisions of the Stabilization Act of 1942, from which Mr. Vinson's disputed power to set aside the August agreement between the roads and the unions was derived through executive orders. It would go further, and exempt wage settlements arrived at through Railway Labor Act procedures from the provisions of any other law. The subcommittee considering this proposal was made up of Representatives Crosser of Ohio (chairman), Priest of Tennessee, and Harless of Arizona, Democrats, and Wolverton of New Jersey and Halleck of Indiana, Republicans.

Whatever the hope of committee members, and others, that a compromise settlement of the non-op dispute might be worked out that would be acceptable to Director Vinson and the union heads, there was nothing to suggest any softening of resistance on the part of either of these parties to the controversy to be discerned in their statements to the House committee last week, though these were made, of course, before President Roosevelt summoned the op leaders to Washington to discuss concessions to avoid their threatened strike.

As reported in *Railway Age* of December 18, page 984, the stabilization director appeared before the committee on December 16 to urge the defeat of the Truman-Crosser resolution and to detail his reasons for accepting a sliding-scale 4-to-10 cent increase for the non-ops while refusing to accept the straight eight-cents-per-hour increase negotiated by the unions and the carriers in their August agreement. Upon completion of his prepared statement, and again upon December 17, Mr. Vinson was subjected to extensive questioning by members of the committee, but he remained firm in his insistence that a sliding-scale

increase was the only increase he could approve for the non-ops under the terms of the Stabilization Act and the executive orders implementing that statute.

Holding F. D. R. to His Word.—Later on December 17, George M. Harrison, grand president of the Brotherhood of Railway & Steamship Clerks, Freight Handlers, Express & Station Employees, and spokesman for the non-op leaders, appeared before the committee to assert with equal finality that the non-ops would not give ground in their insistence that government approval be given to an across-the-board increase. The time for compromise was past, he declared, and he announced the non-ops' determination to hold the President to his word, again asserting that the union leaders had been positively assured by Mr. Roosevelt that the eight cent increase recommended by the first emergency board would be approved.

These pronouncements before the House committee thus suggested an impasse that could be resolved, it appeared, only by Presidential action, and that this action might develop promptly was suggested by a remark of Mr. Roosevelt's in his December 21 press conference that measures to bring about a settlement of the non-op dispute were under consideration. While passage of the Truman-Crosser resolution would have satisfied the non-op leaders, if finally permitted to become law by Mr. Roosevelt's action or over his veto, it would have remained under the cloud of Mr. Vinson's pointed declaration to the House committee that its passage could result only from a misunderstanding of the issues or from the "political power and might of those who demanded it."

Threatens the Democrats.—That the non-ops were not entirely unmindful of the latter consideration was indicated very shortly afterwards, when Mr. Harrison, in the course of his discussion of the matter before the committee, resorted to what he termed "frank" language, denouncing the Administration for "bungling" and "arrogance," and asserting that he did not think "it did the Democrats a damn bit of good the way they handled this thing, and our people are going to tell them so at the next election." The non-op leader continued at some length and with some vigor to reveal to the committee the extent to which the union leaders considered themselves forced to go by the wrath of their membership over what they considered the obstinacy of Mr. Vinson and the failure of the "government" to follow through with the eight cent per hour settlement they understood they had been promised.

The non-ops' counsel, Donald Richberg, appeared before the committee on December 17, also, devoting his remarks largely to the legal aspects of the stabilization director's stand on the operation of the Stabilization Act and of the unions' position with regard to the segregation of wage adjustments under the Railway Labor Act from the general stabilization program. After Mr. Harrison had completed his remarks, the committee took the matter of reporting the resolution to the House under consideration, and the decision to set up a subcommittee to study the broadening

amendment was the outcome rather than any effort to bring the issue before the House under a suspension of the rules as the beginning of the holiday recess approached.

Apart from the House committee's action, there was relatively little expression of opinion from members of Congress on the railway wage situation as the "showdown" approached. Representative Fish, Republican of New York, on December 17 told the House that Congress had "no right to shut its eyes and try to evade any responsibility for the impending railroad strike," and Representative Morrison, Democrat of Louisiana, through extensions of remarks in the Congressional Record of December 15 and 16 made it clear that the unions' case would have his support, which he invited them to reciprocate in his state election, in which he is a candidate for governor.

More Harmful Than Hitler.—As this week's developments were unfolding, Director Joseph B. Eastman of the Office of Defense Transportation was asked at a press conference December 20 to comment upon the possibility of a strike. No blow that the enemy could inflict would impair the country's war effort as much as a railroad strike, he replied, and he expressed again his confidence that there would be no strike. "I think," he went on, "that railroad employees have done a splendid job. They have every right to press for wage increases if they think them justified. And after the duly constituted authorities had spoken, I think the employees had a right to appeal wherever an appeal lay—either to Congress or the President. After the final word is spoken, there is no doubt a legal right to strike; but, under present conditions, I don't think they can strike and remain good citizens."

"No grievance could justify abandonment of duty in time of war. I have a great deal of faith in railroad employees. I do not believe they will ruin their record because they don't like certain wage decisions after the final word is spoken."

To a question as to whether he had received any advices as to government plans to take over the railroads in the event of a strike, Mr. Eastman first replied that he had received no "official" advices. Pressed as to whether he had received "any kind" of advices, he said that such a move would be up to the President, "and he hasn't said anything to me."

"If a strike should take place," the O. D. T. director remarked, "the results would be something I hate to think about—both in the case of freight and of passenger traffic. Other forms of transportation could not begin to take the place of the railroads." Throughout his discussion of the matter, however, Mr. Eastman made it clear that he did not expect a strike to occur.

The Order of Execution.—Up until the December 19 meeting of the op leaders and the carriers' representatives with the President, preparations were going forward for the execution, beginning December 30, of the brotherhoods' strike order. At their Cleveland, Ohio, offices

it was disclosed that the roads that would be affected by the first day of the strike would include the New York Central; Pennsylvania; Wabash; Southern Pacific; Atchison, Topeka & Santa Fe; Chicago, Burlington & Quincy; Northern Pacific; Lehigh Valley; Central of New Jersey; Reading; Norfolk & Western; Southern; Lehigh & New England; and Virginian.

Among roads scheduled to be affected on the second day were the Chesapeake & Ohio; Chicago & North Western; Great Northern; New York, New Haven & Hartford; Chicago & Eastern Illinois; Delaware & Hudson; Erie; Delaware, Lackawanna & Western; Illinois Central; Kansas City Southern; Missouri Pacific; Grand Trunk Western; Gulf Coast Lines; Texas & Pacific; Wheeling & Lake Erie; Pere Marquette; and New York, Chicago & St. Louis.

On January 1, the third day of the progressively spreading strike, the plan called for stoppage of work on the Chicago, Milwaukee, St. Paul & Pacific; Seaboard Air Line; Baltimore & Ohio; Union Pacific; St. Louis-San Francisco; Western Pacific; Chicago Great Western; and Gulf, Mobile & Ohio, among others, while the program called for a complete nation-wide tie-up, including all trunk lines, terminal roads and short lines that were parties to the negotiations that led to the four-cent award, to become effective on January 2.

11 Months Ton-Miles 15 Per Cent Above Last Year

Class I railroads handled about 8.5 per cent more ton-miles of revenue freight in November, 1943, than was handled in the corresponding month of 1942, according to a preliminary estimate prepared by the Association of American Railroads.

In the first 11 months of 1943, Class I roads performed approximately 15 per cent more revenue ton-miles of service than in the same period of 1942, 54 per cent more than in the same period of 1941, and 119 per cent more than in the first 11 months of 1939.

The following table summarizes revenue ton-mile statistics for the first eleven months of 1943 and 1942:

Revenue Ton-Miles of Freight			Per Cent Increase
	1943	1942	
9 months.	541,346,588,000	463,894,788,000	16.7
October ..	65,000,000,000	62,160,196,000	4.8
November.	61,800,000,000	56,958,793,000	8.5
11 Months	668,146,588,000	583,013,777,000	14.6

Pelley Greets British Roads on Amalgamation Anniversary

Railroads of Great Britain, celebrating this week the twenty-first anniversary of their amalgamation into four systems, were in receipt of a congratulatory cablegram from J. J. Pelley, president of the Association of American Railroads. The anniversary celebration was held on December 22 in London.

Mr. Pelley's message read as follows: "On occasion of twenty-first birthday anniversary of the amalgamation of the four British main line railway companies, occurring on January 1st, and which am told is being celebrated December 22nd,

I wish to extend on behalf of railways of the United States our congratulations on your accomplishments of the past and our best wishes for the future."

Sir Ronald W. Mathews, chairman of the Railway Companies Association, replied as follows: "British railways celebrating twenty-first anniversary of the amalgamation into four main line companies deeply grateful for congratulations and good wishes extended to them by the railways of the United States."

Some Small Craft Brought Under Regulation

Reporting in the Ex Parte No. 157 proceeding, the Interstate Commerce Commission, Division 4, has exercised its authority under section 303(g) of the Interstate Commerce Act's Part III and lifted in part the exemption from regulation of transportation by vessels of not more than 100 tons carrying capacity or not more than 100 indicated horsepower.

It has found that carrying out of the national transportation policy requires the regulation of transportation by such vessels in the following types of operation: (1) By common carriers by water which are engaged also in the transportation of property partly by railroad or motor vehicle and partly by water under common control, management, or arrangement for a continuous carriage of shipment; (2) by common or contract carriers by water which are engaged also in the transportation of property by vessels of greater power and carrying capacity between common points or within a common territory; and (3) by common or contract carriers by water which are engaged also in the transportation of passengers subject to the provisions of Part III of the act by vessels equipped to carry more than 16 passengers.

Author of 1940 Act's Labor Protection Provisions Dies

Vincent J. Harrington, former Iowa congressman, who sponsored the so-called Harrington amendment out of which came the Transportation Act of 1940's labor-protection provisions, died recently in England where he was serving as a major in the Army Air Corps.

Equipment on Order

Class I railroads on December 1 has 36,253 new freight cars on order, according to the Association of American Railroads. On the same date last year they had 28,108 on order.

The former figure included 11,277 plain box, 2,969 automobile box, 5,197 gondolas, 14,095 hoppers, 1,200 refrigerator, 200 stock, and 1,315 flat cars.

Railroads also had 1,004 locomotives on order on December 1, which included 387 steam, three electrics, and 614 Diesel-electrics. On December 1, 1942, they had 894 locomotives on order which included 368 steam and 525 electrics and Diesel-electrics.

Class I roads put 26,433 new freight cars in service in the first 11 months of 1943, compared with 61,220 in the same period last year. Those installed in the 11 months of 1943 included 13,933 hoppers,

8,464 gondola, 2,446 flat, 194 automobile box, 1,342 plain box, four refrigerator, three stock, and 47 miscellaneous freight cars.

They also put 656 new locomotives in service in the first 11 months of this year, of which 380 were steam, 15 electric, and 261 Diesel-electric. New locomotives installed in the same period last year totaled 668 of which 273 were steam and 395 were electric and Diesel-electric.

The Office of Defense Transportation also reported 53 new locomotives on order on December 1, and 20 new locomotives installed in the first 11 months of this year by other than Class I carriers. This brings the total of new locomotives on order on December 1 to 1,057 and the number installed in the first 11 months to 676.

Representation of Employees

Reporting on results of a recent election the National Mediation Board has certified the Brotherhood of Railway Clerks as the Railway Labor Act representative of three groups of Chicago, North Shore & Milwaukee employees. The workers involved are: Clerical, office, station and storehouse employees; concession clerks and dishwashers; and red caps.

Probable Carloading Picture

A forecast of carloadings for the first quarter of 1944 was released at the executive meeting of the Allegheny Regional Advisory Board, at Pittsburgh, December 16. This forecast indicates there will be an increase of 3.5 per cent in coal loadings as compared with the same period in 1943. It is expected that 722,980 cars of coal and coke will be loaded, while actual loadings for the same period in the present year totaled 698,531. Grand total of all carloadings for this district is estimated to approximate 1,093,789 cars, an increase of 2.5 per cent over the first quarter of 1943.

At the Pittsburgh gathering, considerable time was devoted also to discussion of O. D. T. Director Eastman's program for securing a 10 per cent increase in freight car performance by carriers and users of transportation. It was observed that, while car efficiency committees of the Allegheny board have been performing notable service in this connection, even greater efforts must be put forth during the winter if trouble is to be avoided.

C. R. Megee, manager of the Open Top Car section of the Association of American Railroads, gave the executive group a picture of the national transportation situation, with special attention to the necessity for all to co-operate to the fullest in an avoidance of car shortages.

Modifies Specifications for Running Boards

Making a second report on further hearing in the No. 21997 proceeding, the Interstate Commerce Commission, Division 3, has modified its order of March 13, 1941, with respect to running boards and dimensions and manner of application to box and other house cars, and with respect to dimensions of footboards on steam locomotives.

The principal modification will permit

LIMA LOCOMOTIVES PLAY THEIR PART

in helping the C. & O. to move more coal



While the operating records of the Chesapeake & Ohio show that miles per serviceable freight locomotive increased by 5.4% in 1942 over the excellent showing of 1941, revenue ton-miles stepped up by 13.3%—an even clearer indication of the heavier service performed by C. & O. freight locomotives during each mile of their increased daily rounds.

A substantial part of this increased load was carried for the C. & O. by Lima-built locomotives, including the "Allegheny Type" 2-6-6-6 articulated super-power Lima steam locomotives. Twenty of these were recently delivered by Lima to the C. & O., and ten more are now being built for this railroad by the Lima Locomotive Works.

LIMA LOCOMOTIVE WORKS



INCORPORATED, LIMA, OHIO

the installation of running boards of material other than wood on box and other house cars and footboards of material other than wood on locomotives used in switching service without prior approval of the commission. The report is dated December 11, and the order becomes effective January 1.

Freight Car Loading

The total of carloadings for the week ended December 18 was not available at the time this issue of *Railway Age* went to press.

Loading of revenue freight for the week ended December 11 totaled 823,211 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

For the Week Ended Saturday, December 11	1943	1942	1941
District			
Eastern	159,634	144,437	169,280
Allegheny	181,752	159,784	176,359
Pocahontas	59,556	53,153	52,020
Southern	128,034	113,404	125,102
Northwestern ...	90,906	81,921	95,220
Central Western.	128,303	121,938	127,714
Southwestern ...	75,026	69,546	61,530
Total Western Districts	294,235	273,405	284,464
Total All Roads.	823,211	744,183	807,225
Commodities			
Grain and grain products	53,426	45,246	41,533
Live stock	18,566	17,712	13,841
Coal	189,146	166,227	154,891
Coke	15,716	14,553	14,048
Forest products..	45,165	37,190	42,377
Ore	17,439	14,200	16,173
Merchandise l.c.l.	104,002	90,687	152,741
Miscellaneous ..	379,751	358,368	371,621
December 11	823,211	744,183	807,225
December 4	862,759	759,731	833,375
November 27	820,082	743,464	866,180
November 20	882,287	836,762	799,386
November 13	847,683	826,695	883,890

Cumulative Total,
50 Weeks41,013,687 41,491,931 40,884,394

Rise in Rail-Air Traffic

Air express cargo handled in co-ordinated rail-air express service for the nation's commercial airlines increased 16.9 per cent in October, compared with the same month a year ago, the air express division of Railway Express Agency has reported. There were 36,585 shipments moved in the combination service, compared with 31,292 in October, 1942.

Express charges on this air cargo, which originates at or is destined to an off-airline office, or moves part way by rail, was 25 per cent higher than in October, 1942, the report indicated. About 30 per cent of all air express shipments are moved in combination rail-air service, it is estimated.

The "Merchants" Is 40 Years Old

The "Merchants Limited," the New Haven's famous Shore Line train between Boston and New York, recently observed its 40th anniversary, marking the completion of nearly 6,000,000 miles of service during which it has carried more than 4,000,000 passengers.

"The Merchants," as it is known familiarly to travelers, was the first train in the nation to which two dining cars were regularly assigned. That was in 1918. On December 14 of this year, passengers in the Limited's dining cars joined in an

informal birthday celebration, with birthday cake and souvenir cards.

The "Merchants Limited" was inaugurated in 1903 at the request of merchants, who, at the close of the business day, wanted a swift train to take them either to Boston or New York. It was one of three limited trains on the New Haven. Today it is the sole limited, extra-fare train on this system.

Originally, this train operated on a 5-hr. schedule, with stops at Providence, New London and New Haven. Today, the Boston-New York trip is covered in 4 hr. 20 min., with stops only at Providence and New Haven.

A highlight in the history of the "Merchants" occurred December 23, 1930, when it made its maiden trip as the first completely all-roller-bearing train in the world.

"Tracks" Makes Its Bow

The Chesapeake & Ohio lines' magazine has been completely revamped, to be of greater interest and use to employees. Beginning with the January, 1944 number, this 28-year-old publication appears in pocket-size form, streamlined, and wearing its new name—"Tracks." There is no advertising, and editorial material is not confined to railroading alone, but includes subjects of general interest, as well. It is modern in type dress, convenient to carry.

Whereas formerly each issue handled "personal" items covering all three Chesapeake & Ohio Lines—the C. & O., the Nickel Plate and the Pere Marquette—in the new format, the magazine is issued in different editions, with localized news in each restricted to that particular line receiving it.

The current issue contains an article by Edward Hungerford—"Tomorrow, the Railroad." There is an interview with the Duke of Windsor, in which he expresses

his preference for railroad travel to flying. Alvanley Johnston, chief grand engineer of the Brotherhood of Locomotive Engineers, figures in another interview, and there is a story of a woman telegrapher on the Pere Marquette. Colonel Leonard P. Ayres, the famous economist—now serving in that capacity for the C. & O. lines—presents his views on the post-war outlook for the railroads. Then follows a series of features, including several fiction pieces, a puzzle page, cartoons and service men's news bulletins.

November Operating Revenues Nine Per Cent Above 1942

From preliminary reports of Class I roads representing 81.6 per cent of total operating revenues, the Association of American Railroads this week estimated that operating revenues in November were \$614,020,185, compared with \$563,246,591 in November, 1942, an increase of nine per cent.

Estimated November freight revenues were \$458,104,911, compared with \$434,856,617, an increase of 5.3 per cent. Estimated passenger revenues totaled \$112,287,572, compared with \$88,758,715, an increase of 26.5 per cent.

Baltimore & Ohio Moves Box Cars by Truck

When a summer flood disrupted service on the Baltimore & Ohio's short line between St. Clairsville (Ohio) and Bridgeport, and so damaged tracks and bridges that six "foreign" box cars became marooned in the St. Clairsville yards, it was the unexpected proposal of Division Superintendent R. A. J. Morrison which secured the prompt release of this equipment. The box cars would be moved by truck the 12 miles between St. Clairsville and Bridgeport.

Accordingly, the J. E. Miller Trucking

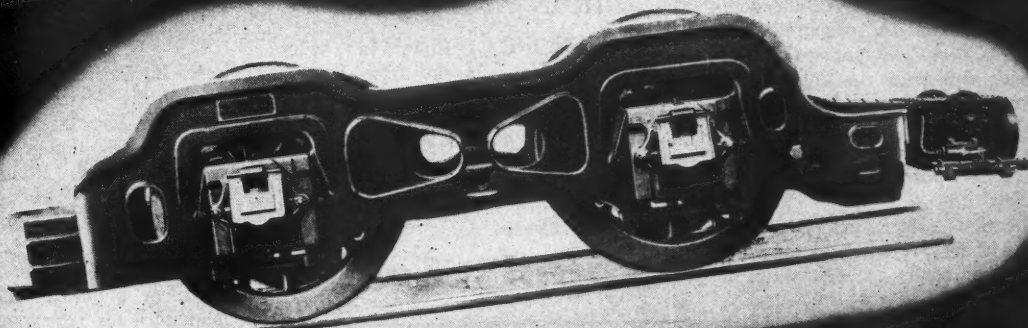


Photo courtesy Wheeling News-Register

A Box Car Takes a Truck Ride

Within three days, two tanks, a gondola and three box cars were successfully moved in this manner.

LOCOMOTIVE BOOSTERS*



HAVE ADDED MILLIONS OF POUNDS OF DRAW-BAR PULL

Thousands of locomotives in war-time service have from 10,000 to 15,000 lbs more draw-bar pull to help them in starting the heavier trains and accelerating them to road speed. The Locomotive Booster supplies this power.

Here is a substantial contribution to hauling power that is helping in the achievement of new records by American railroads in the handling of the nation's war-time traffic.

*Trade Mark Reg. U. S. Pat. Off.



FRANKLIN RAILWAY SUPPLY COMPANY, INC.

**NEW YORK
CHICAGO**

In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

December 25, 1943

28

Company, of Wheeling, W. Va., provided a special chassis, designed to accommodate loads of this magnitude, with protection of the highways against damage. Under the supervision of Master Car Builder Hollen, of Wheeling, cars were unloaded, jacked up and placed on the truck by B. & O. carmen.

Propose Commuter Fare Cases Be Suspended

Petitions have been filed with the Interstate Commerce Commission by most of the roads engaging in the transportation of commuters in the vicinity of New York and Philadelphia, Pa., asking that its Nos. 28973 and 28975 proceedings, dealing with proposed increases in interstate commutation fares in these territories, be suspended. Exhibits that would be required in these proceedings, particularly cost studies based upon proposed formulas of Dr. Ford K. Edwards of the commission's staff cannot be prepared conveniently in this period of manpower scarcity, the roads informed the commission, and therefore, though they believe they are entitled to increased commutation fares, they request postponement of the investigations until it is possible to make the studies required.

The applications were made, it was pointed out, without prejudice to the right of any individual roads to seek relief in special situations.

The New York, New Haven & Hartford did not join in the application in the No. 28973 proceeding, but filed a separate petition at the same time asking the commission to eliminate its New York-Connecticut interstate commutation business from that proceeding and to incorporate it instead in the No. 28972 proceeding, dealing generally with commutation fares in New England.

Eastman to Be Honored by I. C. C. Practitioners

A ceremonial dinner will be tendered to Joseph B. Eastman at the Statler Hotel, Washington, D. C., on February 17, 1944, by the Washington Chapter of the Association of Interstate Commerce Commission Practitioners.

It will be in celebration of Mr. Eastman's 25th anniversary as a member of the commission. Edward F. Lacey, executive secretary of the National Industrial Traffic League, is chairman of the arrangements committee.

Will Support Abandonment Bill With Protection for Labor

The Railway Labor Executives Association has decided to support, with a labor-protection amendment, the bill introduced by Senator Reed, Republican of Kansas, to establish more rigid standards for the Interstate Commerce Commission to follow in railroad abandonment cases.

Provisions of the bill, S. 1489, were set forth in the *Railway Age* of November 6, page 737. R. L. E. A. would like to add provisions stipulating that no abandonment would be allowed unless the employment rights of the employees involved are protected for four years from the date of the abandonment.

Equipment and Supplies

Frisco to Spend \$2,483,662 for Betterments in 1944

The St. Louis-San Francisco has been granted permission by the Federal District Court at St. Louis, Mo., to spend \$2,483,662 for additions and betterments in 1944. The petitioning of authority to spend this money for the construction of a 4.12-mile line from the Gasconade River Bridge to Franks, Mo. to eliminate curves, reduce grades and shorten the line and to purchase new rails and other track materials was reported in the *Railway Age* of December 11.

IRON AND STEEL

The FLORIDA EAST COAST has ordered 22,360 tons of 112-lb. rail from the Tennessee Coal Iron & Railroad Co.

The CENTRAL OF NEW JERSEY has placed an order for 5,000 tons of rail with the Bethlehem Steel Company.

Supply Trade

American Steel Foundries

The annual report of the American Steel Foundries for the fiscal year ended September 30, 1943, shows net income of \$2,752,543, compared with \$2,906,343 for the year ending September 30, 1942. Net income prior to Federal taxes was \$17,602,743 this year, compared with \$12,706,343 last year.

The activities of the company have continued to be devoted primarily to work in connection with the war effort, its principal contribution being cast armor and other castings for tanks, gun mount castings for the Navy and other ordnance material. A substantial part of the output consists of regular products for railroad equipment and for industrial customers whose activities are also devoted to the war effort.

The company on January 1, 1943, purchased the business and plant of Charles F. Elmes Engineering Works, Inc., Chicago, manufacturers of hydraulic press equipment.

S. P. Murphy has been appointed western representative with headquarters at Chicago, and C. A. Stephenson, eastern representative, with headquarters at Hoboken, N. J., for the Sperry Rail Service.

R. D. Ulrey has been appointed manager of the newly established Los Angeles, Calif., office of the Joshua Hendy Iron Works, Crocker-Wheeler Electric division. The new office will cover southern California, Arizona and New Mexico.

The Standard Steel Works division of the Baldwin Locomotive Works, Philadelphia, Pa., has been authorized to add a fourth star to its Army-Navy "E" flag, for continued exceptional service. The plant re-

ceived the Navy "E" award, forerunner of the Army-Navy flag, on September 4, 1941.

Ralph C. Harden, vice-president of the Gustin-Bacon Manufacturing Company, has been appointed in charge of all sales activities of the company, with headquarters at Kansas City, Mo., and New York. J. F. Stephens, vice-president, will be in charge of product development and research, and J. O. Brelsford, general manager of production, will be in charge of manufacturing.

William Butler, who started as an apprentice nine years ago in the research department of the Lukens Steel Company, has been promoted to advertising manager of Lukens and its subsidiaries, By-Products Steel Corporation and Lukenweld, Inc., to succeed George M. Gillen, who recently was named assistant manager of combined sales for Lukens and its subsidiaries. Mr. Butler has been in the company's sales promotion department since March, 1938.

R. B. Sayre has been appointed manager of the Memphis, Tenn., office of the Graybar Electric Company. Mr. Sayre joined the Memphis office as a warehouse clerk in October, 1921, and two years later was appointed salesman serving the north Mississippi, west Tennessee, and Arkansas territory. He was transferred to Atlanta, Ga., as manager, outside construction department in 1939, which position he has held until his recent appointment.

Clarence M. Brown has resigned as chairman of the board of directors of the Pittsburgh Plate Glass Company, but will remain active on the executive committee on the board, and as chairman of the finance committee. Harry S. Wherrett, vice-chairman, has been elected chairman of the board; Robert L. Clause, president, has been elected vice-chairman of the board, and Harry B. Higgins, executive vice-president, has been elected president.

Robert Murray, superintendent of the New Haven, Conn., works of the American Steel & Wire Co., subsidiary of the U. S. Steel Corporation, has been appointed assistant division metallurgist in Cleveland, Ohio. Edwin E. Caspell, general foreman of the company's rope mill at New Haven, will succeed Mr. Murray as superintendent of the New Haven works, and Arvin P. Wiedemann, assistant general foreman of the rope mill, has been appointed general foreman to succeed Mr. Caspell.

The Grand Rapids plant of General Motors, now being operated by the Saginaw Steering Gear division for the manufacture of injectors, will become a permanent division, known as the Diesel Equipment division on January 1. Post-war plans for the new division call for the construction of a new plant to meet special problems in the manufacture of injectors. C. F. Runchey, manager of the Grand Rapids plant, has been promoted to general manager of the new division and C. W. Truxell, of the engineering staff of the Detroit Engine division, has been appointed chief engineer.

O. O. Lewis, branch manager at the Atlanta, Ga., office of Fairbanks, Morse & Company, has been promoted to assis-

FUEL

a strategic material

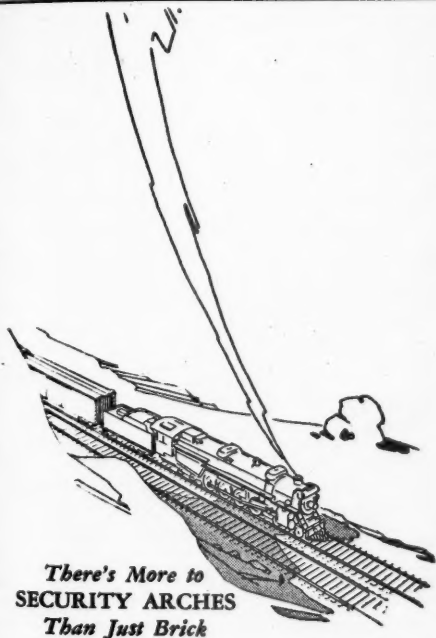
CONSERVED

with Security Sectional Arches

Today, more than ever, fuel is one of our strategic materials. Making every pound of fuel produce the maximum amount of steam not only conserves this strategic material but also the cars required to transport it.

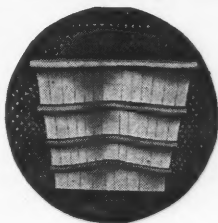
For over 32 years, Security Sectional Arches have been saving fuel on all types of steam locomotives.

But experience has proved that only with a *complete* Arch can maximum fuel economy be realized.



**HARBISON-WALKER
REFRACTORIES CO.**

Refractory Specialists



**AMERICAN ARCH CO.
INCORPORATED**

60 EAST 42nd STREET, NEW YORK, N. Y.

**Locomotive Combustion
Specialists**

tant general sales manager with headquarters at Chicago and **G. N. Van Epps**, manager of the Diesel department at Chicago, has been promoted to branch manager at Atlanta to succeed Mr. Lewis. **V. O. Harkness**, manager of the company's branch at Dallas, Tex., has been appointed manager of the Diesel engine sales division at Chicago, and **H. J. Renken**, manager of the oil field division at Dallas, will succeed Mr. Harkness as manager in that city. **J. S. Peterson**, scale department manager of the Cincinnati, Ohio, branch, has been promoted to the office of branch manager to succeed the late Stanley Eaton.

Fred Lavis, consulting engineer of New York, has gone to Caracas, Venezuela, at the request of the minister of public works of that country to advise on the operating problems of the Gran Ferrocarril of Venezuela, a formerly German-owned railroad 184 kilometers in length between Caracas and Valencia. This railroad was recently expropriated by the government of Venezuela following failure to operate after being placed on the black list by the American and British governments. It is reported that the line may be combined with others to form a through system from La Guaira to Barquisimeto in the State of Lara. The project contemplates changing the gauge of the F. C. Bolivar to conform to that (3½ ft.) of the other lines of the system.

Paul Reeves has been appointed advertising manager of the **Timken Roller Bearing Company** to succeed **Roland P. Kelley**, who has occupied that position for the last seventeen years and who has resigned to go into advertising agency work. Mr. Reeves was graduated from the Carnegie Institute of Technology with a degree in mechanical engineering. He joined the Timken Company in 1929 and after completing the Timken engineering training course served as sales engineer in the Chicago office. He was subsequently transferred to the Pacific coast where he was made industrial district manager of the company's San Francisco, Calif., branch. He returned to the home office in Canton, Ohio, in 1940 as sales promotion manager, and when the United States entered the war, was placed in charge of government priorities to handle contacts between the company and Washington.

John E. Wright has been appointed to fill the recently created office of regional sales manager for the railway division of the **Edward G. Budd Manufacturing Company**, of Philadelphia, Pa. Mr. Wright, who was formerly in charge of the company's St. Louis, Mo., office, will be in charge of Budd's enlarged Chicago offices in the Railway Exchange building. He was graduated from George Washington University and is a former representative in the southwest territory for American Steel Foundries. **Thomas R. Wagner**, formerly vice-president of the Peerless Equipment Company of Chicago, has joined the Budd organization as district sales manager of the railway division with headquarters in Chicago, and **Robert Sherman**, formerly with the General Steel Casting Company at Granite City, Ill., has joined the Budd railway division sales organiza-

tion as district sales manager in charge of the St. Louis office.

William A. Blume, president of the American Brakeblok division of the **American Brake Shoe Company** since 1940, has been elected a Brake Shoe vice-president. Following his graduation from Penn State College in 1915, Mr. Blume joined the Brake Shoe Company as a special apprentice at its Mahwah, N. J., foundry. He was subsequently sent to the company's munition plant in Pennsylvania and then back to Mahwah where he worked in the experimental department. After serving with the Engineering corps in the world war, he returned to Brake Shoe in August, 1919, and was appointed assistant superintendent at the Baltimore, Md., foundry. He was transferred to Pittsburgh, Pa., in 1924 where he was one of a group carrying on experiments with a composition railway brake shoe. When the American Brake Materials Corporation was established in 1926, he was appointed vice-president in charge of engineering. The company was later moved to Detroit, Mich., as American Brakeblok. Mr. Blume was elected a vice-president of American Brakeblok in 1932, and president in May, 1940. His new appointment as vice-president of American Brake Shoe Company is in addition to his position as president of the American Brakeblok division.

OBITUARY

Stewart McNaughton, sales manager in charge of steam locomotive sales of the Baldwin Locomotive Works, died December 14. He was 61 years of age. Mr. McNaughton joined the Baldwin Locomotive Works in 1899 as a mechanical draftsman. He devoted his attention to various phases of locomotive design and engineering for the next 15 years, and, in 1915, entered the sales department as manager of loco-



Stewart McNaughton

otive repair parts activities of the company. He assumed charge of all steam locomotive sales in 1941.

Ralph J. Dodds, district manager of the Oxweld Railroad Service Company, a unit of the Union Carbide & Carbon Corporation, died in Chicago on December 8. He was 45 years of age. Mr. Dodds was born in Topeka, Kan., in 1898. He joined the Oxweld Railroad Service Company in 1919 after having had general railroad mechani-

cal and oxy-acetylene welding experience and held the positions of mechanical instructor, district superintendent, and district manager.

Construction

CANADIAN NATIONAL.—To provide facilities for the movement and handling of ore developed by the Steep Rock Iron Mines, Ltd., Canadian iron mining development, the Canadian National proposes to proceed as quickly as possible with the construction of a high level pocket type ore loading dock at Port Arthur, Ont., and the building of a spur from the railway's main line near Atikokan to the mine site. Engineering surveys will be started immediately and upon their completion, the railroad will call for building tenders. Atikokan, where the spur will leave the main railway line, is about 150 miles west of Port Arthur. The length of the spur will be about four miles and it will connect with the main line at a point 1½ miles west of Atikokan station. Cost of the combined project is estimated at between two and three million dollars, and will be borne by the government under the war measures and war appropriation acts, but the work will be done under the railroad's direction. Two hundred and fifty special ore cars will be ordered to provide for the movement of ore from the mine site to lakehead.

CHICAGO, ROCK ISLAND & PACIFIC.—This road has started construction of a freight terminal at Blue Island, Ill., at an approximate cost of \$125,000. The new structure will include two enclosed parallel platforms, 30 ft. by 755 ft., equipped with overhead doors, and also a two-story supply and storage house and a two-story office building which are to be constructed of brick and tile, with steel frames and concrete floors. The contract was awarded to Joseph Haigh & Sons Co., Chicago.

GREAT NORTHERN.—This road has awarded a contract, amounting to \$75,000, to Pappin & Son, Great Falls, Mont., for the construction of a brick tile and frame truck garage at Great Falls. The building will measure 107 ft. by 120 ft., with a 60-ft. by 19-ft. wing for officers, and will be utilized for servicing and housing trucks used by the Great Northern for freight service in Montana.

NORTHERN PACIFIC.—This road has awarded a contract, amounting to more than \$1,000,000, to the J. C. Boespflug Construction Company, Seattle, Wash., for the construction of a new tunnel through Bozeman mountain in Montana. Details of the project were reported in the *Railway Age* of November 27.

TEN THOUSAND voluntary blood donations were recently shipped via the Canadian National from Central Medical Stores, Royal Canadian Army Medical Corps, Ottawa, to the Military Forwarding Officer at an eastern Canadian port. There were 500 cases of serum packed in a specially-heated express car and the shipment, which weighed about 22,500 lb., contained 2,000 bottles and totaled 14,000 pints.

A
Merry
Christmas
and a
Victorious
New Year

ELES

CO

SUPERHEATERS • FEEDWATER HEATERS
AMERICAN THROTTLES • STEAM DRYERS
EXHAUST STEAM INJECTORS • PYROMETERS

THE
SUPERHEATER
C O M P A N Y

Representative of
AMERICAN THROTTLE COMPANY, INC.
60 East 42nd Street, NEW YORK
122 S. Michigan Blvd., CHICAGO

Montreal, Canada
THE SUPERHEATER COMPANY, LTD.

Financial

BALTIMORE & OHIO.—Dissolution of Subsidiary.—Division 4 of the Interstate Commerce Commission has authorized this road's wholly-owned subsidiary, the Baltimore & Ohio & Chicago of Indiana, to acquire the property and capital stock of another wholly-owned subsidiary, the Baltimore & Ohio & Chicago of Illinois, so that the latter company may be eliminated from the system capital structure. In order to complete the transaction, the Indiana company will issue to the B. & O. \$102,000 of its \$50 par value capital stock in exchange for an equal principal amount of the Illinois company's stock, which is the entire amount outstanding.

BALTIMORE & OHIO.—Equipment Trust Certificates.—The Baltimore & Ohio has accepted a bid of 100.057 plus accrued interest from November 1, 1943, made by Halsey, Stuart & Company and a number of associated financial houses, for its \$3,097,000 issue of three per cent ten year equipment trust certificates, series M, subject to the approval of the Interstate Commerce Commission. This is the final installment of the series M certificates, \$7,500,000 of which were previously issued and sold. The issue was re-offered to the public on an 0.85 to 2.85 per cent yield basis for 1944 to 1950 maturities and at prices from 100.25 to 100.75 for the 1951-53 maturities.

BALTIMORE & OHIO.—Promissory Notes.—Division 4 of the Interstate Commerce Commission has authorized this company to assume liability for, and the Staten Island Rapid Transit, which it controls through stock ownership, to issue \$502,400 of promissory notes in evidence of, but not in payment for, the unpaid purchase price of eight 1,000 h. p. Diesel-electric switching locomotives bought under a conditional sale agreement from the American Locomotive Co. at a total cost of \$628,000. The seller's rights in the securities were disposed of through competitive bidding to the Irving Trust Co., New York, on terms resulting in an interest rate of 1.74 per cent payable monthly.

CHESAPEAKE & OHIO.—Proposed Preference Stock.—Division 4 of the Interstate Commerce Commission has denied this company's application for authority to issue \$76,573,700 of preference stock of \$100 par value to be distributed as a stock dividend to its common stockholders. After referring to the applicant's claim that the proposed dividend would "serve to compensate the stockholders for sacrifices made in foregoing greater dividends in the past," since its income exceeded dividend payments over the period 1921-1942, inclusive, by \$200,501,216, the division pointed out that it has "consistently held" that stock dividends can be approved as in the public interest only when a "substantial surplus" remains uncanceled "as a support for applicant's credit, providing for emergency needs, offsetting obsolescence and necessary investments in non-revenue-producing property and serving as a general financial balance-wheel."

On this principle, the division found that "the applicant would not have the required substantial surplus remaining uncanceled" if the proposed issue of preference stock should be authorized. It pointed out, also, that it did not consider the purposes for which the applicant proposed to issue the stock dividend as necessary or appropriate for its service to the public.

On December 18, Robert R. Young, chairman of the board of the Chesapeake & Ohio, in expressing the management's disappointment of the decision, said the railroad had hoped to complete the capital readjustment this year while it had in hand a treasury department ruling exempting it from taxes and in order to move along expeditiously for consolidation reasons. His statement, in part, follows: "Congress has given the commission no jurisdiction over cash dividends. Chesapeake & Ohio could, if it so desired, distribute its entire \$169,000,000 of surplus in the form of cash, or its equivalent, so long as it remains uncanceled. . . . For the commission to assert control over the distribution of this surplus as a stock dividend, indirectly, through the exercise of its authority over new security issues, impresses us as a substitution of its discretion for that of the management in a matter for which management is responsible. Prominent mention of deferred maintenance is made as a reason for denying the application. Our officers in sworn testimony stated that our deferred maintenance does not exceed \$1,400,000, an amount inconsequential in relation to our surplus."

Referring to the commission's statement that under present war conditions, which produce greatly increased earnings, maintenance of a substantial surplus was necessary to provide a cushion to absorb the shocks of the transition period after the war, Mr. Young added: "Our application showed that the war, instead of being a bonanza to Chesapeake & Ohio as it was for most railroads, actually reduced its net earnings. The Chesapeake & Ohio, therefore, unlike most, looks forward to an improvement in its net earnings with the return of peace and the elimination of the excess profits tax. During the depression of the thirties the rock bottom earnings of the Chesapeake & Ohio were more than \$20,000,000."

"The management of the Chesapeake & Ohio is carefully studying the decision and is confident that it, and the commission, can find ways and means of accomplishing this readjustment in our capital structure so desirable from the standpoint of the security holder, the commission, and the public interest."

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—Reorganization.—The Federal District Court at Chicago, on December 17, granted this railroad leave to file a motion for reconsideration of the reorganization plan set up by the Interstate Commerce Commission. Attorneys for the road first asked for a month's continuance of the period allowed to file the motion and when the court refused, this motion was filed with supporting briefs and January 14 was set as the date for a hearing. The motion also asks that the court refer the plan back to the I. C. C. for revision in the light of improved earnings and for more generous treatment of all classes of creditors and stockholders. The action by the debtor was based on the improved cash position of the road, reported at \$105,000,000 above the figure stated in the original plan. The United States Supreme Court, in a decision handed down last spring, upheld in principle the reorganization plan of the I. C. C. which eliminated preferred and common stockholders from participation.

DELAWARE, LACKAWANNA & WESTERN.—Valley Railroad Purchase Offer.—The D. L. & W. has entered into an agreement with its leased line, the Valley, for the purchase of the latter's capital stock at \$79 a share, contingent on acceptance of the offer by holders of 90 per cent of Valley stock not now owned by the Lackawanna and subject to Interstate Commerce Com-

mission approval. The Valley is one of the Lackawanna's leased roads in litigation with the parent company over federal income tax liability on leased rentals paid.

DELAWARE, LACKAWANNA & WESTERN.—Merger of Subsidiary.—The application of this company and the New York, Lackawanna & Western for approval of an agreement for the former to acquire by merger the property of the latter has been filed with the Interstate Commerce Commission. To finance the transaction the D. L. & W. also has asked the commission to approve its issue of (1) certificates of deposit in respect of 98,320 shares of the New York company stock, (2) \$5,899,200 of series C 5 per cent first and refunding mortgage bonds, (3) \$3,932,800 of income mortgage bonds, (4) scrip certificates representing fractional interests in such bonds, and to assume liability for the New York company's \$13,639,000 first and refunding 4 per cent gold bonds, series A, and \$10,000,000 first & refunding 4½ per cent gold bonds, series B.

SOUTHERN.—Equipment Certificates Sold by R. F. C.—The Reconstruction Finance Corporation has announced that it has sold \$946,000 of this company's 4 per cent equipment trust certificates, series FF (subordinated), at 103.89 to Auchincloss, Parker & Redpath.

NEW YORK, NEW HAVEN & HARTFORD.—Reorganization.—Federal Judge C. C. Hincks at New Haven on December 21 approved with some alterations the I. C. C.'s plan for the reorganization of this property. Chief among his changes was approval of New Haven purchase of the Old Colony at a higher price than that stipulated by the I. C. C.. The judge issued the following summary of his opinion:

"The plan is approved in its entirety with the corrections noted below.

"The stock equities of the New Haven, common and preferred, are eliminated. Also the stock of the Old Colony.

"The offer to acquire the Boston & Providence is approved.

"The acquisition of the Old Colony is approved at a price corrected to include an additional maximum allotment of \$1,631,327 in new fixed-interest bonds and \$1,223,495 in new contingent-interest bonds.

"The provisions of the plan relating to the Boston Terminal Company are construed and approved.

"The provisions for the treatment of the secured 6s and of the bank group (Chase National, First National of Boston, Irving Trust, National Shawmut of Boston, Second National of Boston, Union Trust Company of Springfield) are disapproved.

"An alternative treatment for the bank group is proposed whereby the New Haven trustees may petition the court for authority to pay the bank claims in cash, this releasing their collateral for distribution to other secured creditors.

"For the secured 6s it is proposed that the maturity date be extended until six months after consummation of the plan and that for existing collateral the equivalent in new securities shall be substituted.

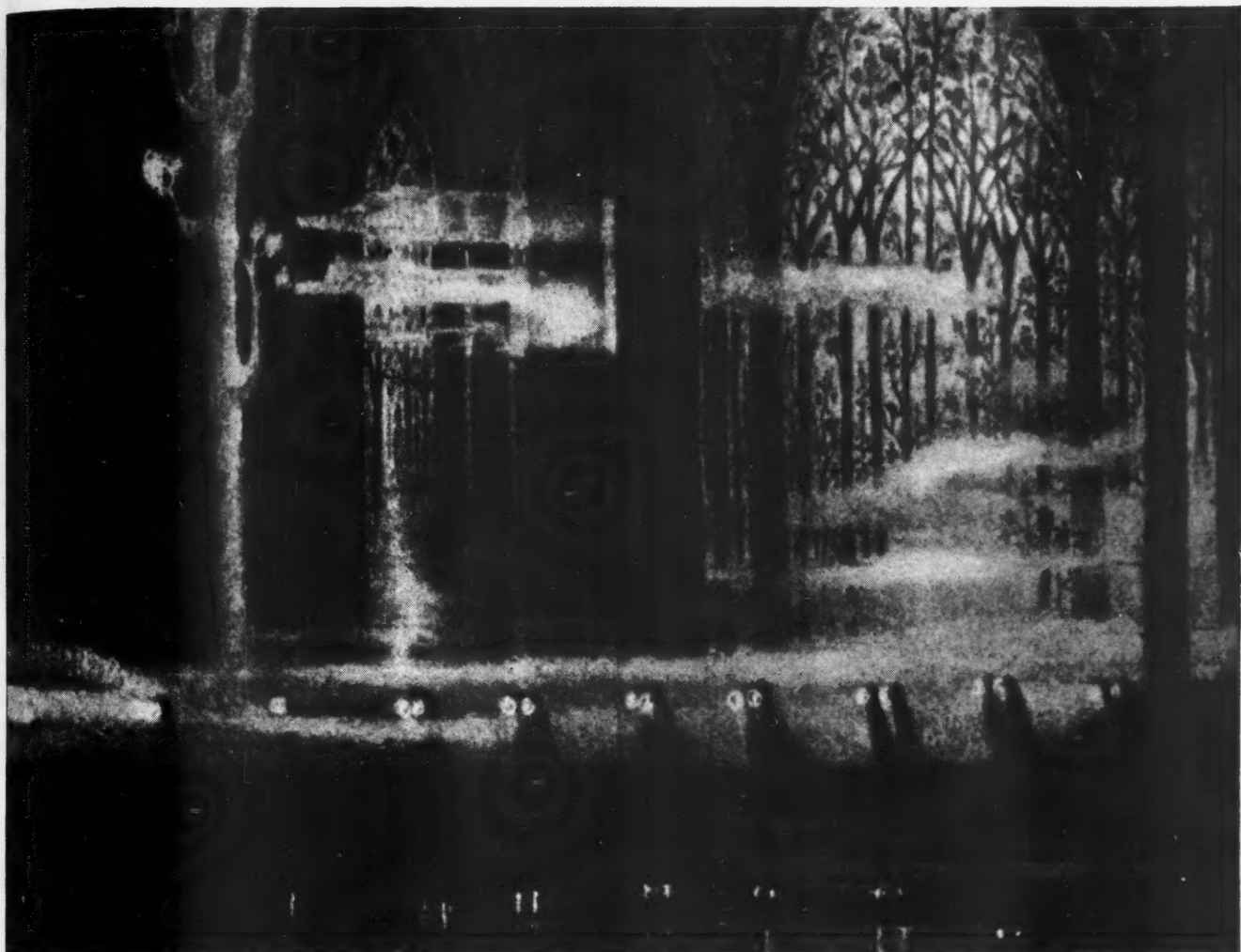
"The alternative treatment contemplated for the banks and the secured 6s will not disturb the treatment of those secured creditors who under the plan of the commission will receive payment in full in fixed interest bonds.

"Secured creditors, who under the plan were not to be paid in full in new fixed-interest bonds, under the opinion will all receive new securities to the amount of their respective claims divided as follows:

"Danbury & Norwalk, 29.99 per cent fixed, 43.98 per cent contingent and 26.02 per cent preferred stock.

"First and refunding, 29.99 per cent fixed, 43.98 per cent contingent and 26.02 per cent preferred stock.

"Secured 6s of 1940, 29.99 per cent fixed, 43.98 per cent contingent and 26.02 per cent preferred.



©Walt Disney Productions

What's the word you think most of at Christmas ?

THERE's one word men of good will everywhere associate with Christmas.

That word is "*Peace. Peace on earth*"...

There can be no peace this Christmas. Not one of us would want the only kind of peace there could be, an inconclusive peace.

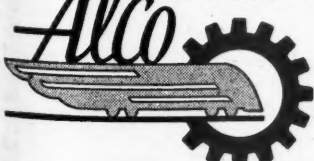
But we do want the right kind of peace as soon as possible. And this Christmas we can help hasten the coming of that

wonderful day, by making War Bonds our chief gift.

Every Bond you buy brightens the chances of a better world than man has ever known.

How, then, could you possibly give a better present than Bonds, Bonds, Bonds? Give them to each member of the family. Give them to your friends. Give them to everybody—the greatest gift of all!

Give War Bonds for Christmas

Alco  **AMERICAN LOCOMOTIVE COMPANY**

This advertisement prepared under the auspices of the U. S. Treasury Department and the War Advertising Council.

"New Haven & Northampton, 74.98 per cent fixed and 25.2 per cent contingent.

"Boston & New York Air Line, 54.98 per cent contingent and 45.02 per cent in preferred stock.

"National Rockland of Boston, 57.73 per cent in fixed, 26.56 per cent contingent and 15.71 per cent in preferred stock.

"Rhode Island Hospital Trust Company, 29.99 per cent fixed, 43.98 per cent contingent, 26.02 per cent preferred stock.

"The distribution contemplated will not make any change in the capitalization proposed by the commission."

WILLAMINA & GRAND RONDE.—*Acquisition of Control.*—Division 4 of the Interstate Commerce Commission has authorized the Long Bell Lumber Corp. to acquire control of this road, through a subsidiary, by ownership of its stock.

Average Prices Stocks and Bonds

	Dec. 21	Last week	Last year
Average price of 20 representative railway stocks..	35.07	34.93	28.27
Average price of 20 representative railway bonds..	80.19	79.73	67.88

Dividends Declared

Canadian Pacific.—4% noncum. preferred, 2%, payable February 2, 1944, to holders of record December 31.

Cayuga & Susquehanna.—75¢, payable January 3, 1944, to holders of record December 22.

Chesapeake & Ohio.—Extra, 50¢, payable December 30 to holders of record December 20.

East Pennsylvania.—\$1.00, quarterly, payable January 18, 1944, to holders of record December 31.

Massachusetts Valley.—\$3.00, semi-annually, payable February 2, 1944, to holders of record December 31.

Northern Pacific.—\$1.00, year-end, payable February 2, 1944, to holders of record January 4, 1944.

Norwich & Worcester.—8% preferred, \$2.00, quarterly, payable January 3, 1944, to holders of record December 15.

Richmond, Fredericksburg & Potomac.—Voting common, \$5.00, year-end; non-voting common, \$3.00, year-end; dividend obligation, \$5.00, year-end; all payable December 24 to holders of record December 20.

South Western.—\$2.50, semi-annually; extra, 25¢, both payable December 27 to holders of record December 8.

Tennessee, Alabama & Georgia.—25¢, year-end, payable December 20 to holders of record December 13.

Wheeling & Lake Erie.—75¢; extra, \$1.50; both payable December 28 to holders of record December 23.

Abandonments

ATCHISON, TOPEKA & SANTA FE.—The Interstate Commerce Commission, by Commissioner Porter, has extended to January 19 the effective date of its orders authorizing this road to abandon a segment of branch line from Virgil, Kans., to Benedict Junction, about 30 miles, and a segment from a point near Eureka, Kans., to Moline, about 34 miles.

CHICAGO, BURLINGTON & QUINCY.—Division 4 of the Interstate Commerce Commission has authorized this company to abandon its branch from Tecumseh Junction, Neb., to Rockford, 24.07 miles, and to abandon operation under trackage rights over a line of the Chicago, Rock Island & Pacific between Rockford and Beatrice, 8.41 miles, reserving jurisdiction for 2 years for the protection of any employees adversely affected.

MISSOURI PACIFIC.—This road's subsidiary, the Missouri Pacific in Nebraska, has been authorized by Division 4 of the Interstate Commerce Commission to abandon a branch from Hastings, Neb., to Prosser, 14 miles.

Railway Officers

OPERATING

George A. Steuber has been appointed general manager of the Despatch Shops, Inc., succeeding **Charles Arthur Becker**, whose death on December 3 was reported in the *Railway Age* of December 18. Mr. Steuber's appointment becomes effective January 1.

Robert J. Yost, whose promotion to superintendent of the Missouri division of the Atchison, Topeka & Santa Fe, with headquarters at Marceline, Mo., was reported in the *Railway Age* of December 11, was born at Lockport, Ill., on July 31, 1893, and entered railway service with the Santa Fe on November 1, 1911, as an extra gang timekeeper at Joliet, Ill. On April 1, 1913, he was advanced to assistant track foreman of the Illinois division, and three years later he was promoted to roadmaster,



Robert J. Yost

with headquarters at Chillicothe, Ill. On July 1, 1938, Mr. Yost was advanced to trainmaster, with the same headquarters, holding that position until his new appointment, effective December 5.

T. P. Kelly, trainmaster of the Southern Pacific Lines in Texas and Louisiana, with headquarters at Austin, Tex., has been advanced to assistant superintendent of the Victoria division, with headquarters at Victoria, Tex., succeeding **H. L. Bell**, whose promotion to superintendent of the Dallas and Austin divisions was reported in the *Railway Age* of December 11. **T. A. Greeson**, chief clerk of the division superintendent at Victoria, has been promoted to trainmaster of the Victoria division, with the same headquarters, replacing **R. E. Buckles**, who has been transferred to Austin, succeeding Mr. Kelly.

Thomas S. Stewart, whose promotion to superintendent of the Houston division of the Southern Pacific Lines in Texas and Louisiana, with headquarters at Houston, Tex., was reported in the *Railway Age* of December 11, was born at Kerrville, Tex., on January 14, 1892, and entered railway service as a call boy of the Southern Pacific Lines in Texas and Louisiana on Sep-

tember 2, 1907, at Houston. He subsequently served as a yard clerk, roadmaster's clerk, extra gang timekeeper, brakeman and conductor at various points until November 1, 1926, when he was promoted to



Thomas S. Stewart

trainmaster, with headquarters at Del Rio, Tex. On April 15, 1933, Mr. Stewart was advanced to terminal trainmaster at Galveston, Tex., and one year later he was appointed trainmaster, with headquarters at Austin, Tex. He was transferred to El Paso, Tex., in 1936, and on June 1, 1938, he was promoted to supervisor of wages, with headquarters at Houston, holding that position until his new appointment became effective on December 6.

Hugh L. Bell, whose promotion to superintendent of the Dallas and Austin divisions of the Southern Pacific Lines to Texas and Louisiana, with headquarters at Ennis, Tex., and Austin, was reported in the *Railway Age* of December 11, was born at Piedmont, Okla., on July 21, 1894, and received his higher education at Oklahoma University and Rice Institute. He entered railway service on November 3, 1919, as a



Hugh L. Bell

cost estimator in the office of the chief engineer of the Southern Pacific Lines in Texas and Louisiana at Houston, Tex., and one year later he was advanced to assistant engineer of the Shreveport division, with the same headquarters. In September, 1921, he was promoted to roadmaster of the Lufkin district, with headquarters at Luf-

subse-
ster's
a and
vem-
d to

Rio,
was
Gal-
s ap-
rs at
o El
1938,
rages,
that
ecame

to su-
divi-
es to
ers at
ed in
born
, and
homa
ntered
as a

ief en-
mes in
x., and
assistant
, with
, 1921,
of the
at Luf-

5, 1943



Greetings

With sincerest wishes
for an Early Victory
with Enduring
Peace

HUNT-SPILLER MFG. CORPORATION

V. W. Ellet, President

E. J. Fuller, Vice-Pres. & Gen. Mgr.

Office & Works

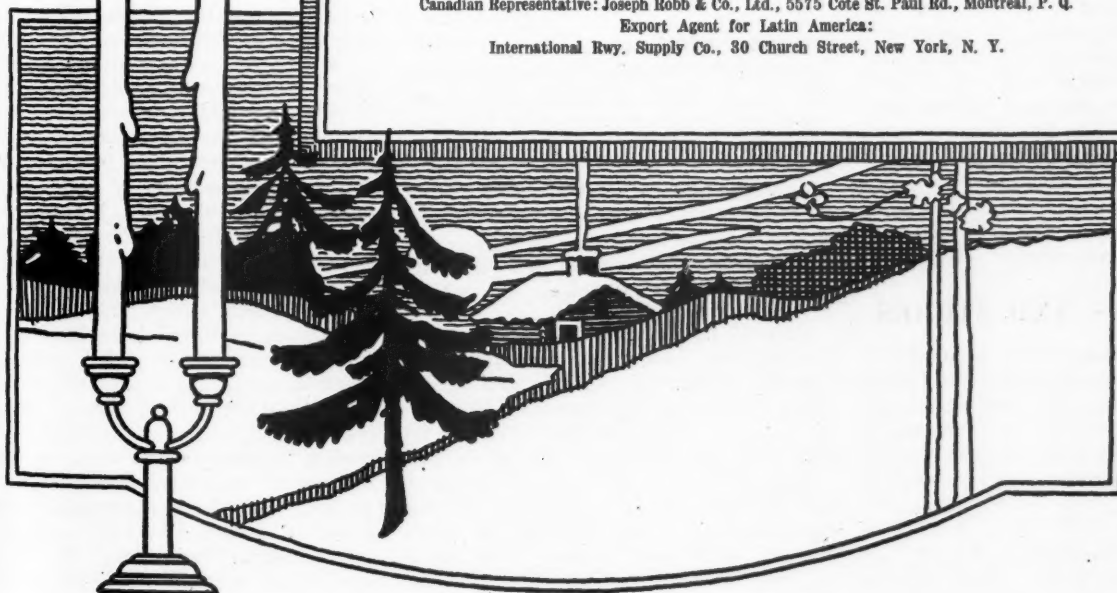
383 Dorchester Ave.

South Boston 27, Mass.

Canadian Representative: Joseph Robb & Co., Ltd., 5575 Cote St. Paul Rd., Montreal, P. Q.

Export Agent for Latin America:

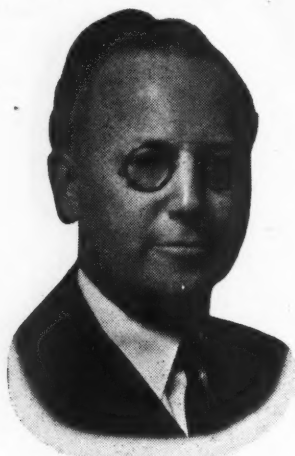
International Rwy. Supply Co., 30 Church Street, New York, N. Y.



kin, Tex., and in January, 1924, he was advanced to division engineer of the Shreveport division, with headquarters at Houston. In 1925 Mr. Bell was transferred to the Beaumont division, with the same headquarters, and in January, 1928, he was promoted to assistant superintendent of that division. In April, 1933, he was appointed trainmaster of the Houston division, with headquarters at Houston, and in December, 1935, he was advanced to division engineer of the Victoria division, with headquarters at Victoria, Tex. In March, 1942, he was promoted to assistant superintendent of that division, holding that position until his new appointment, effective December 1.

TRAFFIC

Joseph F. Bahl, whose promotion to general passenger agent, Western Lines, of the Chicago, Milwaukee, St. Paul & Pacific, with headquarters at Seattle, Wash., was reported in the *Railway Age* of December 11, was born at Chicago on November 23, 1878, and entered railway service on August 1, 1896, as a clerk of the accounting department of the Chicago, Burlington



Joseph F. Bahl

& Quincy at Chicago. He subsequently served in various clerical capacities in the passenger traffic department until October 7, 1910, when he went with the Milwaukee as a city ticket agent at Butte, Mont. One year later he was promoted to advertising agent, with headquarters at Seattle, and on May 18, he was advanced to special passenger agent, with the same headquarters. On April 1, 1917, Mr. Bahl was promoted to city passenger agent at Seattle, and on May 1, 1926, he was advanced to assistant general passenger agent, with the same headquarters, holding that position until his new appointment, effective December 1.

PURCHASES AND STORES

George D. Tombs, whose promotion to assistant general storekeeper of the Illinois Central, with headquarters at Chicago, was reported in the *Railway Age* of December 11, was born at Jackson, La., on April 4, 1890, and entered railway service on June 16, 1907, as a flagman of the Illinois Central at Princeton, Ky. In March, 1913, he was appointed a machinist's helper at New Orleans, La., subsequently serving at that point as a timekeeper and clerk until March,

1914, when he became a stock keeper, with headquarters at Harahan, La. In July, 1916, he was appointed a line checker at McComb, Miss., and two years later he was advanced to assistant division storekeeper, with headquarters at Vicksburg, Miss. In February, 1927, Mr. Tombs was



George D. Tombs

promoted to division storekeeper, with headquarters at Water Valley, Miss., and in May, 1928, he was transferred to Memphis, Tenn. In September, 1921, he was advanced to traveling storekeeper, with headquarters at Chicago, holding that position until his new appointment, effective November 16.

In the *Railway Age* of December 11 it was stated that **LeRoy Cooley**, newly appointed general storekeeper of the Central of New Jersey, has headquarters at Reading, Pa. Mr. Cooley's headquarters continue at Elizabethport, N. J., as before his promotion. He succeeds **W. H. Morris**, who retains his title and position as general storekeeper of the Reading, at Reading, Pa.

OBITUARY

G. C. Lancaster, architect of the Atchison, Topeka & Santa Fe, Eastern Lines, with headquarters at Topeka, Kans., died in that city recently, following a brief illness.

Charles A. Worst, who retired in October as superintendent of telegraph of the Chicago, Burlington & Quincy, and general superintendent of telegraph of the Colorado & Southern, the Fort Worth & Denver City, and the Wichita Valley (subsidiaries of the Burlington), died at his home in Aurora, Illinois, December 17. A biographical sketch of Mr. Worst's career appeared in the *Railway Age* of October 23 at the time of his retirement.

John B. Neish, superintendent of motive power of the Northern Pacific, with headquarters at St. Paul, Minn., died at his home in that city on December 19. Mr. Neish was born in Dundee, Scotland, on November 26, 1874, and entered railway service on May 24, 1895, as a machinist of the Northern Pacific at Sprague, Wash., later serving in that capacity at South Tacoma, Wash., and Spokane. On March 1, 1904, he was promoted to roundhouse foreman, and on December 1, 1910, he was

advanced to master mechanic, with headquarters at Minneapolis, Minn. In September, 1915, Mr. Neish was transferred to St. Paul and on November 1, 1929, he was further advanced to general master mechanic of the Western district, with headquarters at Seattle, Wash. On December 1, 1939, he was promoted to mechanical superintendent and on July 15, 1941, he was advanced to the position he held at the time of his death.

Edward Murrin, executive secretary of the Association of Western Railroads, with headquarters at Chicago, died in an Aurora (Ill.) hospital on December 19 following a short illness. Mr. Murrin was born at Beardstown, Ill., on September 6, 1886, and entered railway service in 1903, as a clerk of the operating department of the Chicago, Burlington & Quincy at Aurora. He subsequently served in a number of clerical positions at Aurora and at Chicago, until 1915, when he was promoted to chief timekeeper and accountant of the Aurora division, with headquarters at Aurora. In 1916 he went with the Association of Western Railroads as statistician. During the war he served from December, 1917, to February, 1919, with the Engineer Corps and in March, 1919, he was appointed assistant to the labor director, United States Railroad Administration at Washington, D. C. Mr. Murrin returned to Chicago in June, 1920, as chief examiner, Association of Western Railroads and assistant secretary, General Managers' Association. In June, 1936, he was advanced to secretary of the Association of Western Railroads and in May, 1938, he was appointed also a member of the Fourth division of the National Railroad Adjustment Board. In April, 1939, he was advanced to the position he held at the time of his death.

J. S. Bassett, superintendent of the Little Rock-Louisiana division of the Missouri Pacific, with headquarters at Monroe, La., died in a Baltimore (Md.) hospital recently after a lengthy illness. Mr. Bassett was born on August 13, 1886, and received his higher education at Iowa State College, Ames, Iowa. Except for two years during the World War when he served in the United States Army, Mr. Bassett had been connected with the Missouri Pacific continuously since 1909. He entered the service in that year as an assistant on the engineering corps at St. Louis, Mo., and later served as a building inspector at Nevada, Mo. In 1912 he was appointed assistant engineer and served in this capacity at various points until 1917, when he joined the army. In July, 1919, Mr. Bassett returned to the Missouri Pacific as assistant engineer, being advanced to division engineer in 1923, which position he held until December, 1929, except for a period during 1924, when he served as assistant division engineer and another period during 1928 when he served as master of trains and track. In 1929, he was transferred to the operating department as assistant superintendent, serving in this capacity and as trainmaster and acting superintendent, and in April, 1936, he was promoted to superintendent of the Little Rock-Louisiana division, holding that position until October of this year when he was granted a leave of absence on account of illness.



Inland Steel Completes Fifty Years of Service Founded in 1893

Eight men gathered around a table in Chicago on the afternoon of October 30, 1893—fifty years ago. They were men who saw and understood the needs of the rapidly growing Prairie Empire.

They had come together to found the Inland Steel Company, to purchase a dismantled rolling mill, to place it in operation during a period of war panic and business stagnation. After months of effort the mill was started and in the first year 5,600 tons were rolled into many useful forms for steel-hungry industry and agriculture.

Years passed—some in peace and plenty, others in war or depression. Steadily the little company forged ahead in the quality and the acceptance of its products. Land soon was acquired at Indiana Harbor, where Inland constructed its first

open hearth furnaces and rolling mills. Expansion continued—blast furnaces, coke ovens, continuous mills, ore mines, coal mines, a limestone quarry, a fleet of freighters, a thoroughly equipped metallurgical laboratory—until Inland Steel Company was in full control of essential basic materials and the quality of all its many steel products. Production had climbed to 3,300,000 tons annually. Then came World War II.

Almost over night Inland, with modern mills and thousands of skilled steelmakers, turned to provide the steel to defend our country—to win against aggression. Today, fifty years after its founding, Inland is sending its entire output to men who fight. When peace comes Inland again will send steel to men who build.

INLAND STEEL COMPANY

38 South Dearborn Street

Chicago 3, Illinois

Sales Offices: Milwaukee • Detroit • St. Paul • St. Louis • Kansas City
Cincinnati • New York



Exide Batteries . . . ease of maintenance is helpful in these times

The American railways' job of transporting troops, carrying raw materials and supplies, creates a home front life-line to our fighting fronts. Capacity is strained to the limit . . . and any step which eases the strain, is a step toward victory.

Here's how Exide Batteries are helping. Their complete dependability and ease of maintenance, so well-known in pre-war times, is doubly important today. It means less waste time in service work. It means fewer delays from equipment breakdown. What's more . . . the simplicity of recharging an Exide is so complete that even an inexperienced worker can do the job well.

That's why dependable Exide Batteries are vitally important to railroads today. When you bought an Exide you *bought to last* . . . take care of it and, *save to win*.

THE ELECTRIC STORAGE BATTERY CO.
Philadelphia 32

Exide Batteries of Canada, Limited, Toronto



THESE SIMPLE STEPS SAVE TIME AND BATTERIES:

- 1 Keep adding approved water at regular intervals. Most local water is safe. Ask us if yours is safe.
- 2 Keep the top of the battery and battery container clean and dry at all times. This will assure maximum protection of the inner parts.
- 3 Keep the battery fully charged—but avoid excessive over-charge. A storage battery will last longer when charged at its proper voltage.
- 4 Record water additions, voltage, and gravity readings. Don't trust your memory. Write down a complete record of your battery's life history. Compare readings.

If you wish more detailed information, or have a special battery maintenance problem, don't hesitate to write to Exide. We want you to get the long-life built into every Exide Battery. Ask for booklet Form 3814.

TRAINS OF THE FUTURE...

call for streamlined
water treatment



(Photo Courtesy Southern Pacific Lines)

● Light-weight equipment, streamliners operating at high speed, other startling improvements in the trains of the future, will tax locomotives to keep pace in operating efficiency. Locomotives will be required to operate through many water districts over longer hauls and be available for increasingly intensive use. Scale formation and foaming in high capacity boilers must be controlled in the water before it enters the locomotive boiler.

Dearborn locomotive boiler water treatment has already earned chevrons in war service, qualifying it for the streamlined intensive use of the future. It's a two-purpose treatment in one solution.

ANTI-SCALE AND ANTI-FOAM IN ONE TREATMENT

The new Amine Anti-foam is added in the same chemical tank along with the Anti-scale, and the mixture becomes an Anti-scale treatment with highly effective non-foaming stabilizer finishing characteristics.

Railroads with Dearborn equipment can add the Anti-foam without changes or additions to equipment in wayside plants. Dearborn-equipped or not, we would like to explain all of the advantages of Dearborn service to you. Write to us.

DEARBORN CHEMICAL COMPANY

310 S. Michigan Ave., Chicago 4
205 E. 42nd St., New York

807-15 Mateo St., Los Angeles
2454 Dundas St., West, Toronto



Dearborn
TRADE MARK REGISTERED

**BOILER WATER
TREATMENT
AND SERVICE**

[For Victory, Buy United States War Bonds and Stamps]•



ONLY HIGHEST QUALITY TIES

WILL HANDLE THE HIGHER SPEEDS
OF THE POST-WAR PERIOD....

MAINTENANCE-OF-WAY men know that the high-speed movement of traffic has a definite bearing on track construction and on maintenance costs. They know too, that track-structure to carry such traffic safely, smoothly, and with low upkeep expense, must be high quality.

While post-war conditions do not necessarily involve higher railway speeds than some now in vogue, there is ample evidence that high-speed operation of trains will be far more wide-spread after the war — and thus that the need for thoroughly sound, sturdy track-structure will be more essential than ever.

We urge you, therefore, to consider ties of the highest quality only. They will form a substantial and durable foundation for the movement of high-speed post-war traffic throughout important years ahead.

INTERNATIONAL CREOSOTING & CONSTRUCTION CO.
PRODUCERS OF HIGH GRADE TREATED TIES, POLES, PILES, ETC.
Galveston — Beaumont — Texarkana

NEW VICTORY CROPS ALONG THE RAILS

During 1940 the United States imported 352 million pounds of Cassava starch from Java. This starch was used for tapioca flour, adhesives on stamps, high-speed packaging glues, paper and cloth sizing, and for many other purposes.

When the Japs cut off importation of Cassava starch, our Agricultural Colleges and the railroads had been working on a substitute—Waxy Blackhull Kafir.

For several years, R. E. Karper, Agronomist in charge of sorghum investigations at the Texas Agriculture Experiment Station of the South Plains region, and H. M. Bainer, railroad General Agricultural Agent, had teamed up to develop Waxy Blackhull Kafir. After months of arduous work, they proved it to be an ideal substitute for Cassava starch.

Then these two men interested General Foods Corporation—this country's largest user of tapioca starch—in planting 40,000 pounds of selected seed on many acres of Texas South Plains land. Under normal conditions this planting would have produced thousands of tons of Waxy Blackhull Kafir, but the first year drought seriously limited the yield.

Even so, three years from now Texas and other parts of the United States will be producing all of this substitute that we need.

This is an example of railroad co-operative effort that a lot of folks are totally unfamiliar with.

With similar expert guidance and, in some cases, financial assistance from our railroads, commercial groves of tung oil (China wood oil) have been established along our Mexican Gulf Coast. Tung oil is invaluable to our paint industry.

Railroad agricultural advisers have also been actively and effectively backing the development of soybeans from Manchuria to make it one of America's greatest all-round crops.

Hemp production, to replace "Manila" rope for our Navy; special selection and planting of potatoes and other vegetables for our wartime dehydration factories; Victory gardens by the hundred thousands—all have been inspired or promoted by our railroad agricultural agents or advisers.

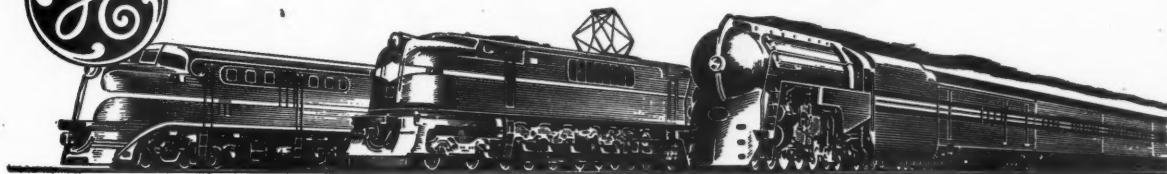
—The Trackwalker

★ ★ ★

Alco



By promoting industry and farming, the railroads are creating postwar jobs and postwar traffic. To handle this traffic at low cost per ton-mile, Alco and G.E. are applying wartime "know-how" to design better locomotives—steam, electric, and diesel-electric.



AMERICAN LOCOMOTIVE • GENERAL ELECTRIC

Copr., 1943, American Locomotive Company and General Electric Company

113-57-9600

WHY *the*
STEEL
COMPANIES
Again **NEED**
MORE
SCRAP



... HERE ARE THE FACTS— WILL YOU HELP?

Again a shortage of scrap threatens to curtail production of steel for war. Again the fullest cooperation of every industrial plant is needed to avert the serious consequences. Will you help!

There are several contributing factors to the threatened scrap crisis:

Inclement weather may bring the ore shipping season to an early and abrupt end, necessitating the use of additional scrap in the open hearth furnaces.

A severe winter may handicap the normal collection and movement of scrap.

A shortage of coal may cripple the production of iron in blast furnaces, and require the use of a greater proportion of scrap in making steel.

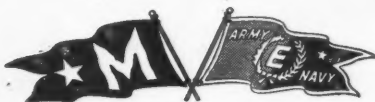
A breakdown in transportation may likewise force the use of more scrap to hold steel production at the peak level.

Frankly, there is a great possibility that one or all of these factors may suddenly cut our output of steel—unless we get in the scrap now.

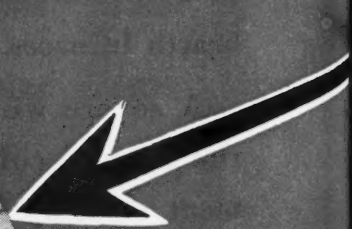
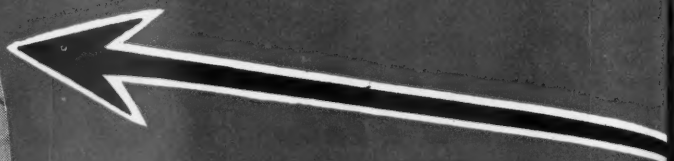
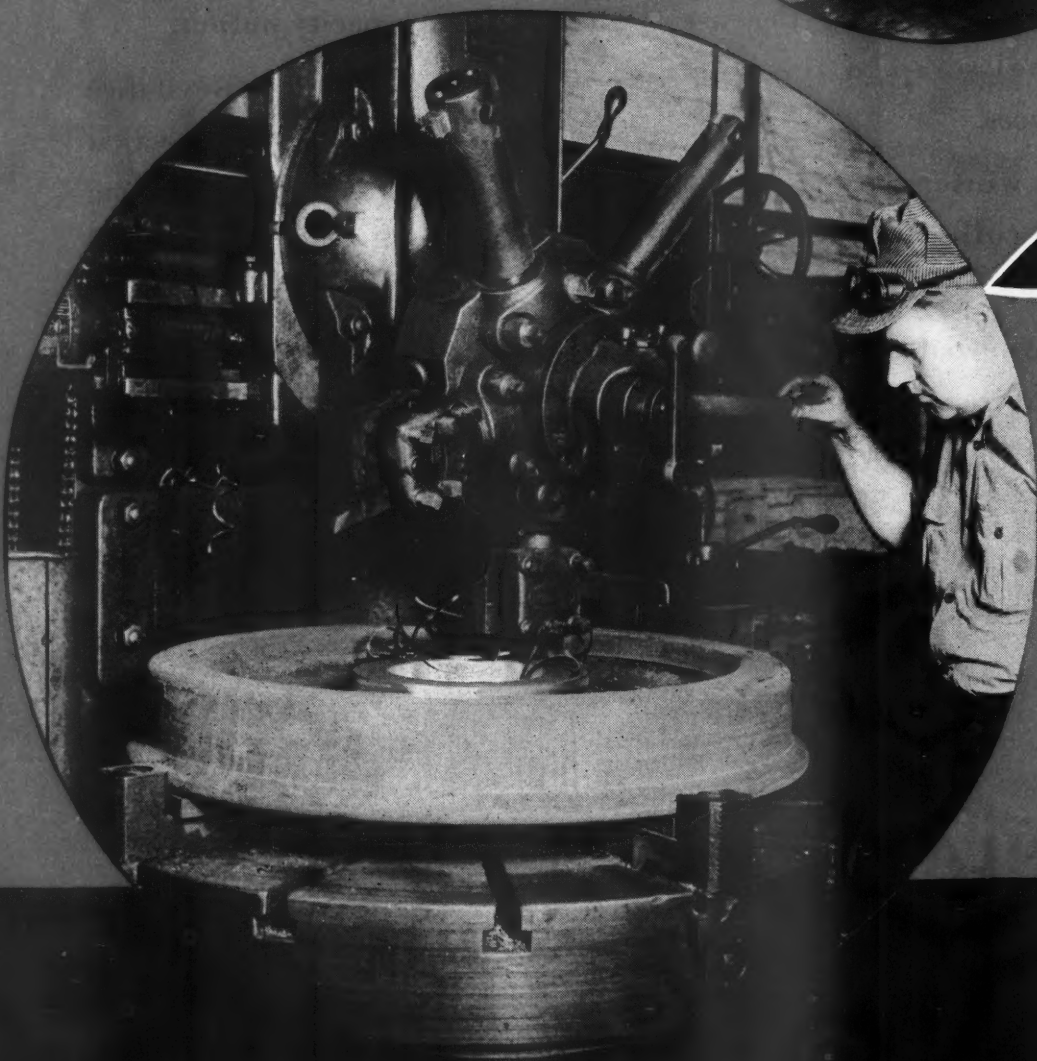
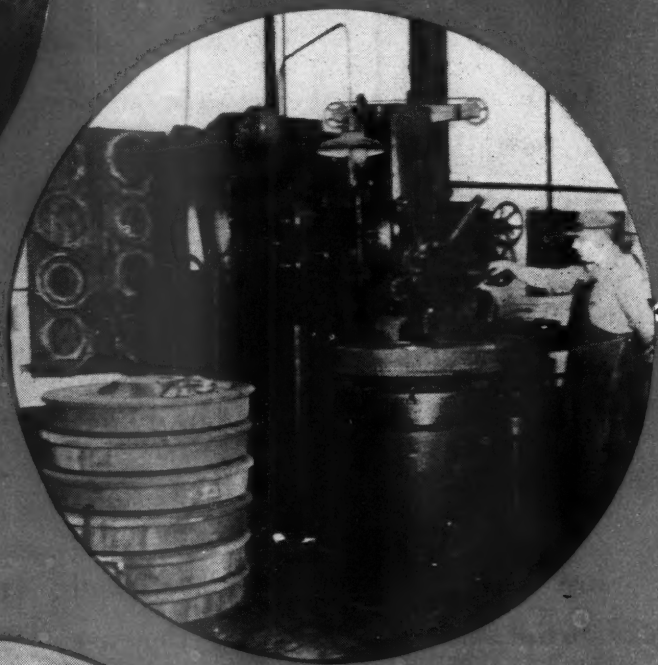
Steel mills must have 15,000,000 tons of scrap to carry them through the winter at capacity output.

You can do your part. Revitalize your scrap committee and see that it immediately starts all scrap from your plant on its way to the steel mills. Clear your plant of scrap *now*, and keep it coming—every ton counts.

At this critical point in the war *we must not falter.*



INLAND STEEL COMPANY
CHICAGO



Streamlining the STREAMLINERS



HIGH speed trains demand high speed wheels—concentricity and accurate balance are very important factors in the elimination of wheel stresses.

Bullard Vertical Turret Lathes are helping the railroads to solve this problem. Illustrations on the opposite page show a standard 42" V.T.L. which is used exclusively for the boring and machining of wheels for Diesel Locomotives and streamlined trains.

Machining operations include boring for axle fit—facing and turning of the hubs and the plate. Tolerance limits are .001 plus and .003 minus.

The Vertical Turret Lathe has been a standard railroad shop tool for many years. Bullard engines are constantly working on new methods to reduce locomotive repair costs—they are always ready and willing to help you with your problems.



THE BULLARD COMPANY
BRIDGEPORT 2, CONNECTICUT

Why are more than 80% of equipped with



all 70-ton freight cars *Wrought Steel* Wheels?

THE ANSWER IS SIMPLE... It is because these wheels have proved that under the most *exacting* freight service—where loads are heavy and speeds are high—they insure incomparably greater safety, longer mileage, fewer traffic interruptions, and cost less per mile to run.

THESE are facts. They are the very good reasons why Wrought Steel Wheels are used under all of our high-speed, deluxe rail traffic, and why they are being increasingly used on 50-ton equipment of all types and on even lighter cars, especially refrigerator.

Today, some 3,200,000 Wrought Steel Wheels are used in freight service.

The heavier loads now carried, the greater distance travelled and the fast speeds at which freight, vital to the nation's welfare, must move today, put a premium on wheel safety. To stand

up, wheels must have the ability to endure heavy brake action and impact at high speeds.

On all these points the U·S·S One-Wear Wrought Steel Wheel is outstandingly superior. No wheel of other material even compares with it for safety and for uninterrupted trouble-free service, under the stepped-up operating conditions that prevail today.

If you want your freight equipment to stay in the running, change over to U·S·S One-Wear Wrought Steel Wheels.

CARNEGIE-ILLINOIS STEEL CORPORATION

Pittsburgh and Chicago

Columbia Steel Company, San Francisco, *Pacific Coast Distributors* · United States Steel Export Company, New York

ONE AIM . . . VICTORY
BUY BONDS



**U·S·S ONE-WEAR
WROUGHT STEEL WHEELS**
-deliver the goods!



UNITED STATES STEEL



Safety... Comfort... Economy...

These three will be essential features of railway passenger equipment to qualify for postwar transportation. A. A. R. Tightlock Couplers go far toward assuring these essentials.

A. A. R. TIGHTLOCK COUPLERS

Eliminate slack in coupler contour.

Eliminate noise caused by coupler slack.

Interlocking feature prevents telescoping and turning over of cars.

Improved anti-creep arrangement, and A. A. R. No. 6 operating mechanism prevents train separation.

Will couple with present standard and M. C. B. type couplers, and when so coupled provides substantial reduction in contour slack.

Wear of coupler head and parts is materially reduced, thus increasing the service life.



They meet all A. A. R. requirements

NATIONAL MALLEABLE ANDS

Sales Offices: New York, Philadelphia, Chicago, St. Louis, San Francisco

General Offices: Cleveland, Ohio



NATIONAL K-4 Friction Draft Gears

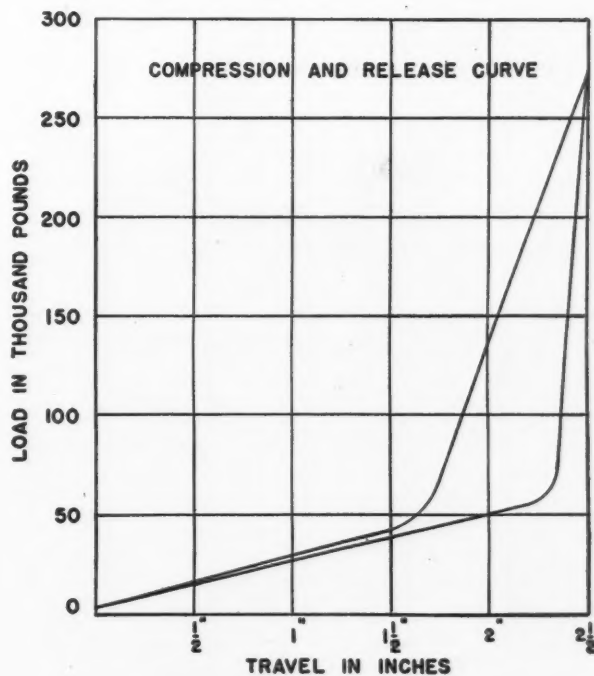
were designed to promote riding comfort in passenger train service.

National K-4 Gears start action smoothly, gradually building up resistance sufficient to absorb the heavy blows without shock, and release quickly and smoothly.

The friction system in the K-4 Gear releases first and is always available to cushion a quick succession of blows.

This gear meets the A.A.R. recommendations for passenger equipment type of draft gears.

The chart at the right shows the smooth action of these gears.



Closure chart for Type K-4 Gears

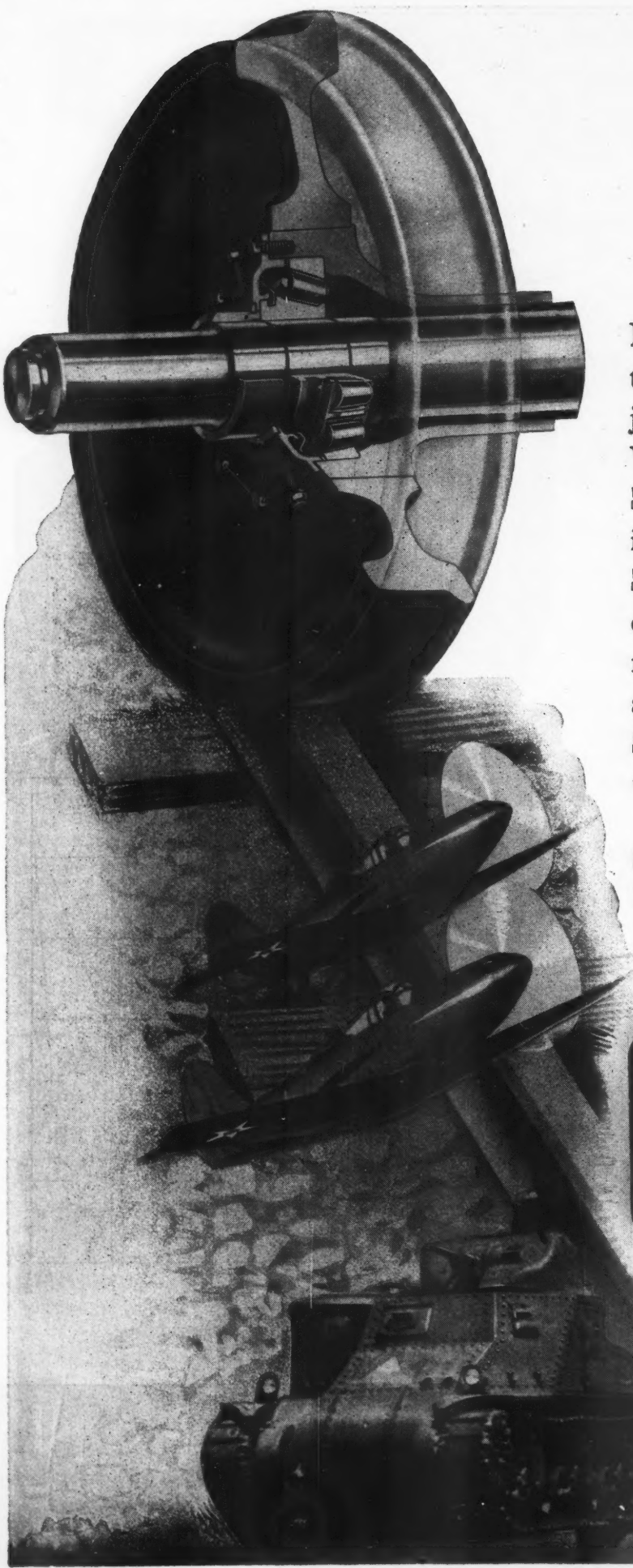
NATIONAL
RAILWAY EQUIPMENT
Since 1875

ND STEEL CASTINGS COMPANY

Works: Cleveland, Chicago, Indianapolis, Sharon, Pa., Melrose Park, Ill.

General Offices: Cleveland, Ohio

WAR



Railroads, in moving vast quantities of guns, tanks, planes, jeeps, etc., are helping to fashion Victory. That they include **SKF** Bearings in this program is a source of pride to us at **SKF**. By providing maximum dependability of rolling equipment, freedom from constant attention and other advantages, **SKF** Bearings are playing a vital part in winning the war.

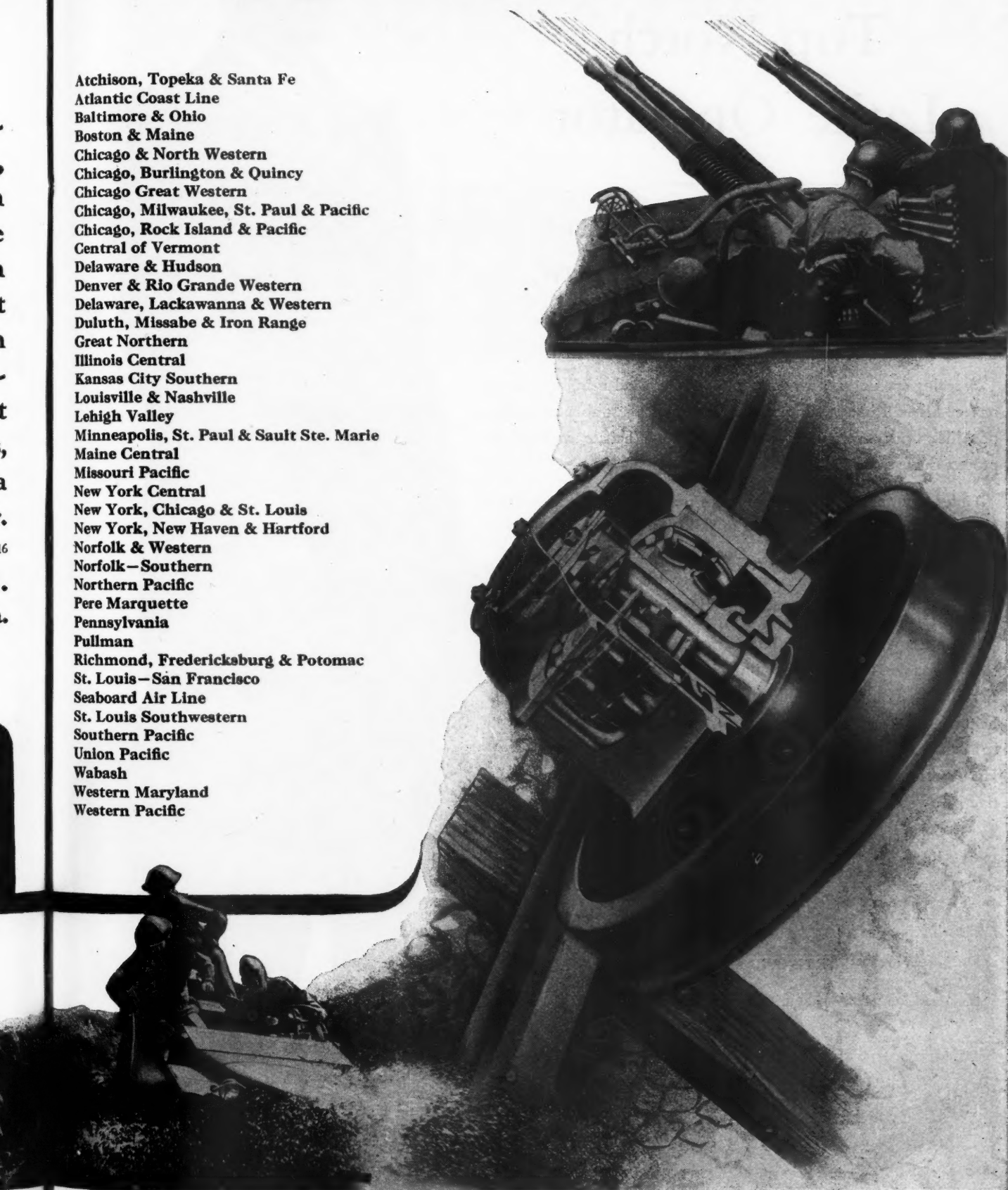
5416

SKF INDUSTRIES, INC.
Front St. & Erie Ave., Phila., Pa.

SKF
BALL AND ROLLER
BEARINGS

WINNERS!

Atchison, Topeka & Santa Fe
 Atlantic Coast Line
 Baltimore & Ohio
 Boston & Maine
 Chicago & North Western
 Chicago, Burlington & Quincy
 Chicago Great Western
 Chicago, Milwaukee, St. Paul & Pacific
 Chicago, Rock Island & Pacific
 Central of Vermont
 Delaware & Hudson
 Denver & Rio Grande Western
 Delaware, Lackawanna & Western
 Duluth, Missabe & Iron Range
 Great Northern
 Illinois Central
 Kansas City Southern
 Louisville & Nashville
 Lehigh Valley
 Minneapolis, St. Paul & Sault Ste. Marie
 Maine Central
 Missouri Pacific
 New York Central
 New York, Chicago & St. Louis
 New York, New Haven & Hartford
 Norfolk & Western
 Norfolk—Southern
 Northern Pacific
 Pere Marquette
 Pennsylvania
 Pullman
 Richmond, Fredericksburg & Potomac
 St. Louis—San Francisco
 Seaboard Air Line
 St. Louis Southwestern
 Southern Pacific
 Union Pacific
 Wabash
 Western Maryland
 Western Pacific



He was a Top-Notch Lathe Operator

**MAKE SURE YOUR WORKERS
PROTECT THEIR EYES WITH
AO GOGGLES**

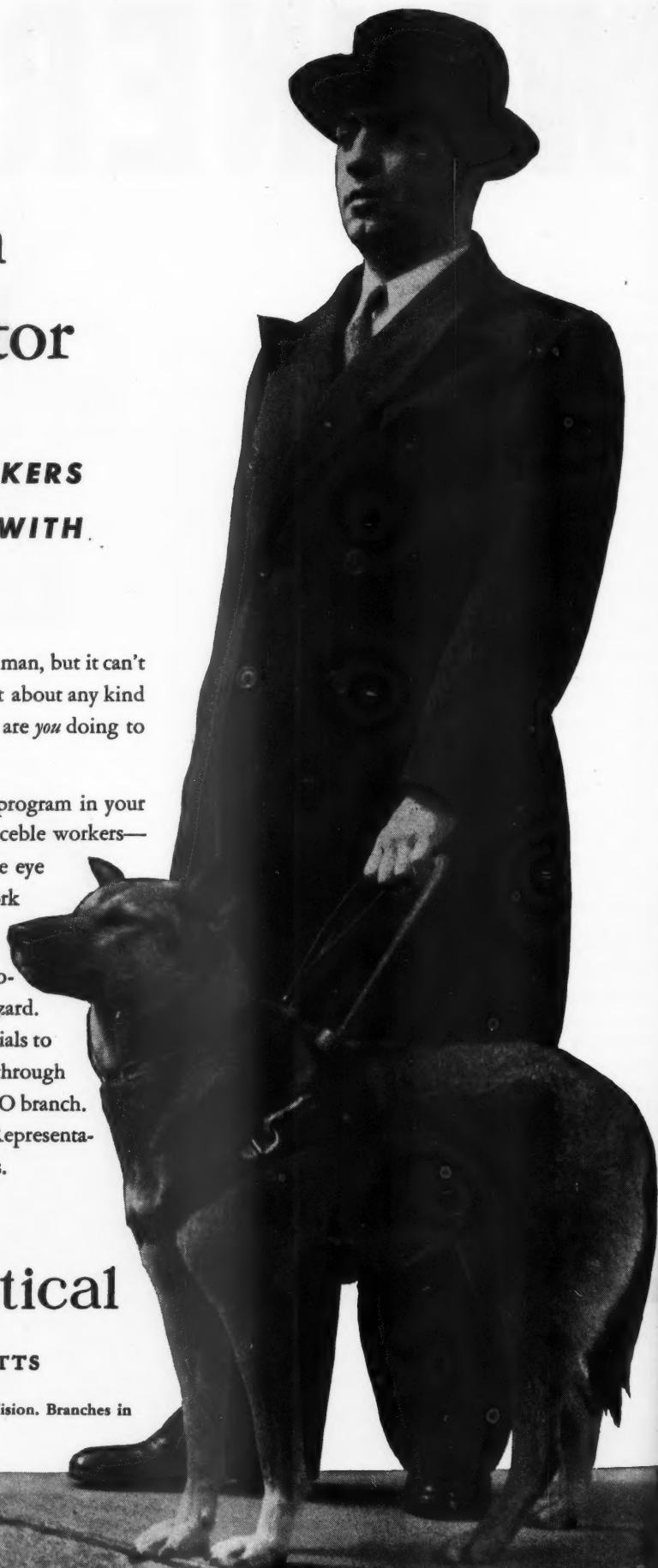
A seeing-eye dog is a wonderful boon to a blind man, but it can't replace his skill in operating a lathe. To perform just about any kind of skilled work, a person must be able to see. What are *you* doing to protect the eyes of *your* workers?

Unless you maintain an energetic eye protection program in your System, eye accidents can rob you of skilled, irreplaceable workers—just when you need them most. Don't let avoidable eye injuries slow down your production, upset your work schedules, waste your time, money, and materials.

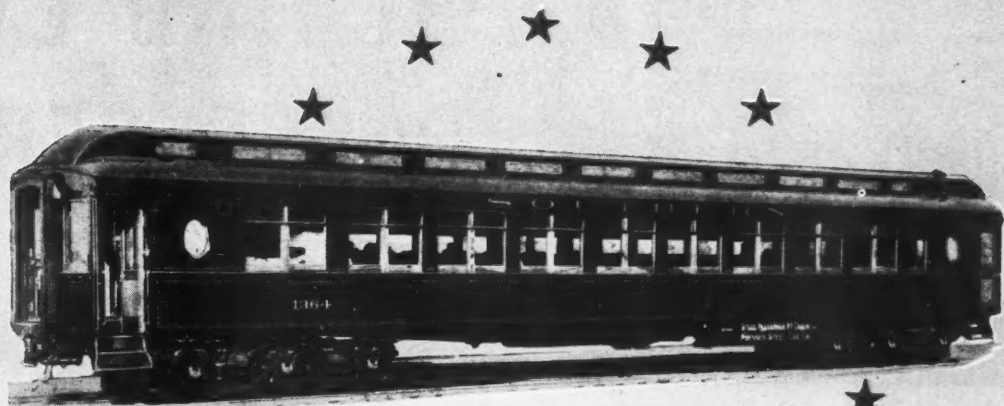
AO offers you a complete line of easy-to-wear protective goggles—a special design for every type of hazard. In addition, AO provides you with educational materials to help you launch your program effectively and carry it through to a successful conclusion. Write or call the nearest AO branch. Have a trained American Optical Company Safety Representative help you intensify your eye protection activities.

American  Optical
COMPANY
SOUTHBRIDGE, MASSACHUSETTS

Manufacturers for 110 Years of Products to Aid and Protect Vision. Branches in
All Principal Industrial Centers

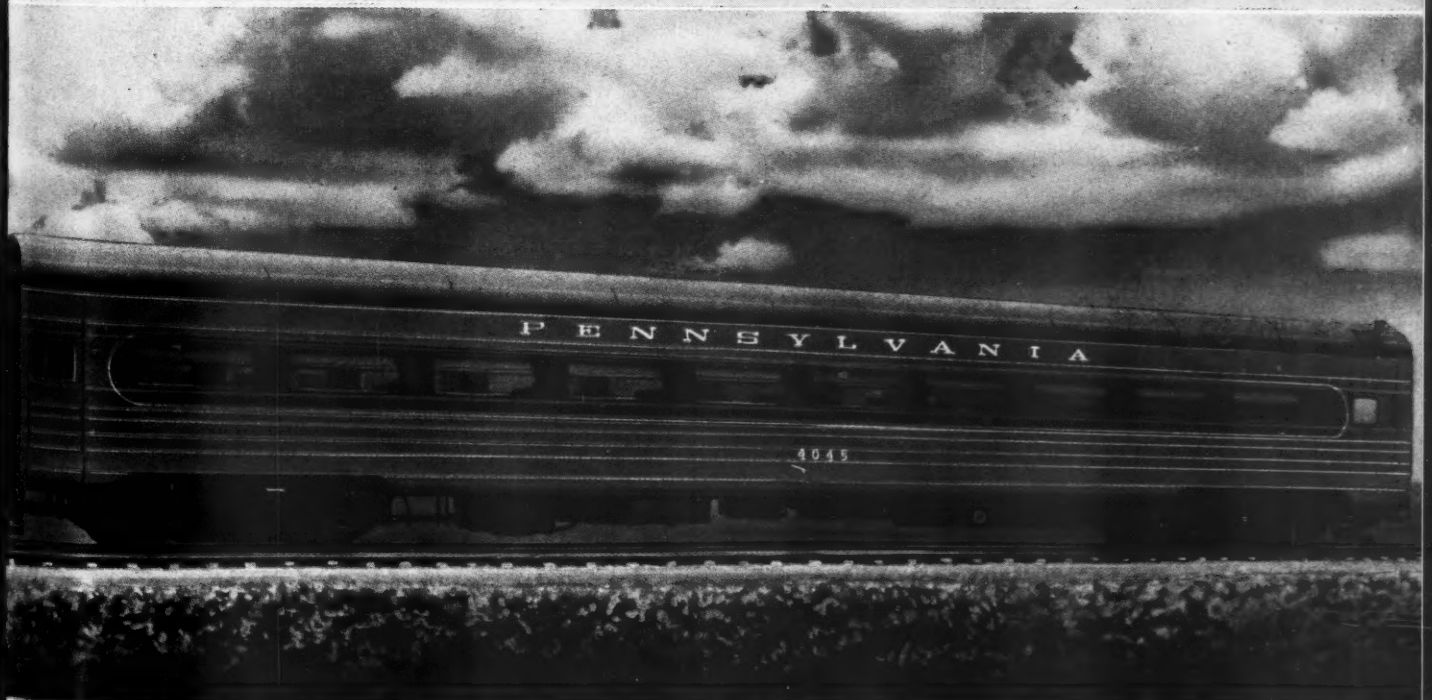


Creators of **PASSENGER EQUIPMENT**



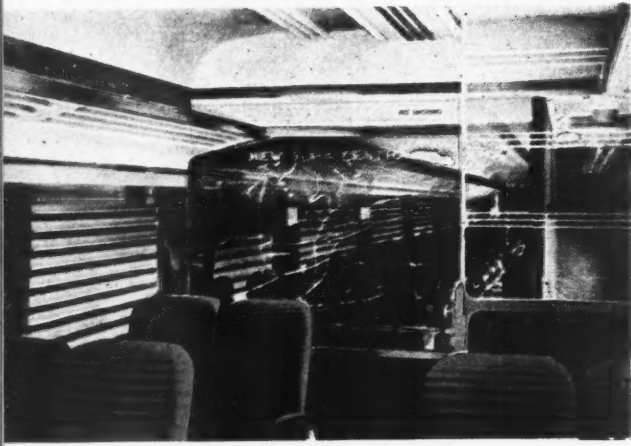
MODERN IN 1906

MODERN IN 1943



PRESSED STEEL CAR COMPANY, Inc.
PITTSBURGH, PA.

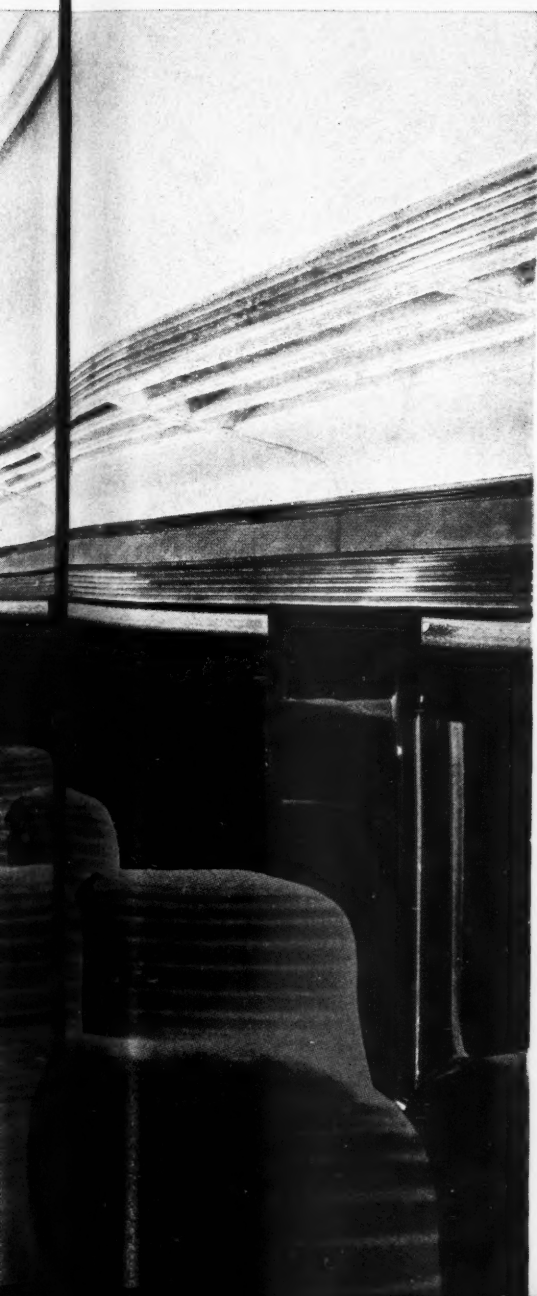
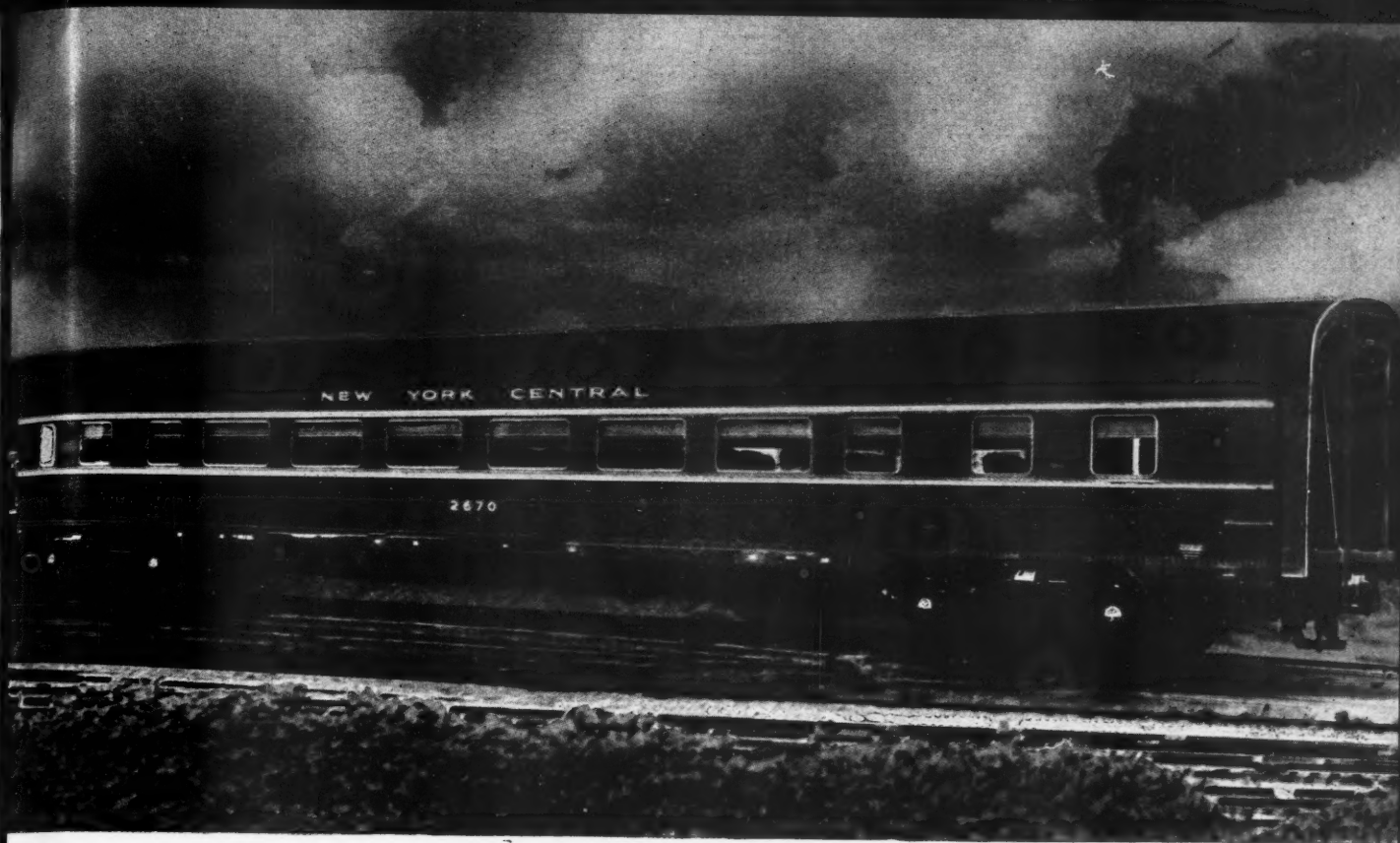
★ ADVANCED ★ ENGINEERING



BEHIND EVERY
PASSENGER CAR
CREATION



★
Y
R
N



THE PRESSED STEEL CAR COMPANY, the pioneer builders of steel passenger cars, has been building passenger equipment for over forty years. The two deluxe coaches illustrated on these pages are outstanding examples of modern construction in recent years.

PRESSED STEEL
CAR COMPANY, INC.
PITTSBURGH, PA.

In Winning the Peace

**WILL COME NEW AND BETTER
PASSENGER CAR DESIGN . . .**

IMPROVED WELDING

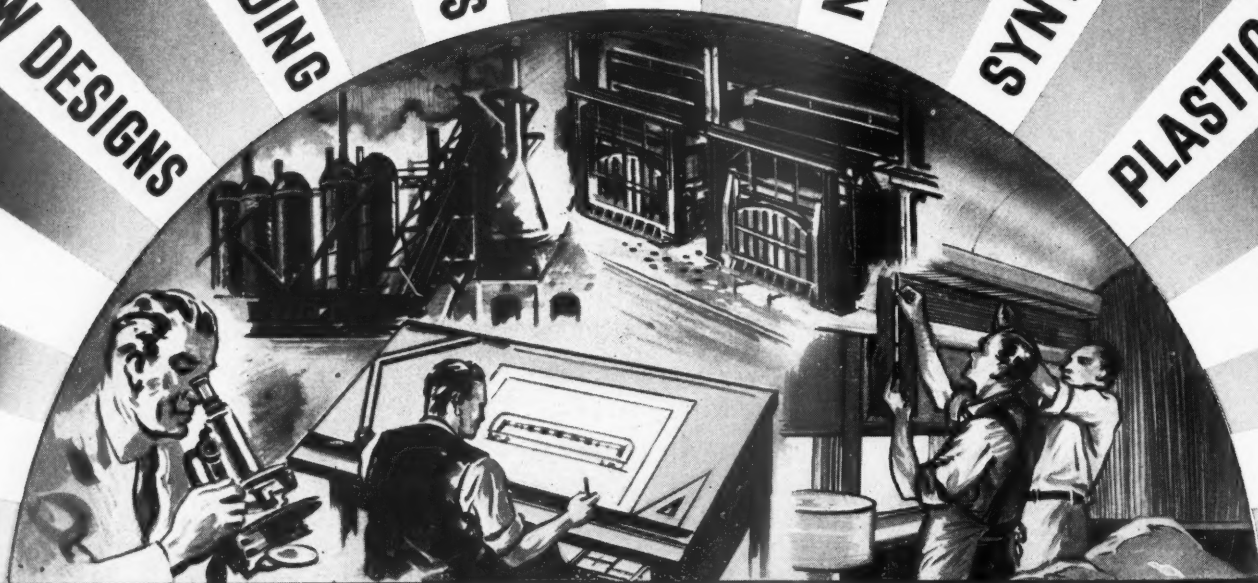
NEW ASSEMBLIES

NEW ALLOYS

NEW FABRICS

SYNTHETIC MATERIALS

PLASTICS



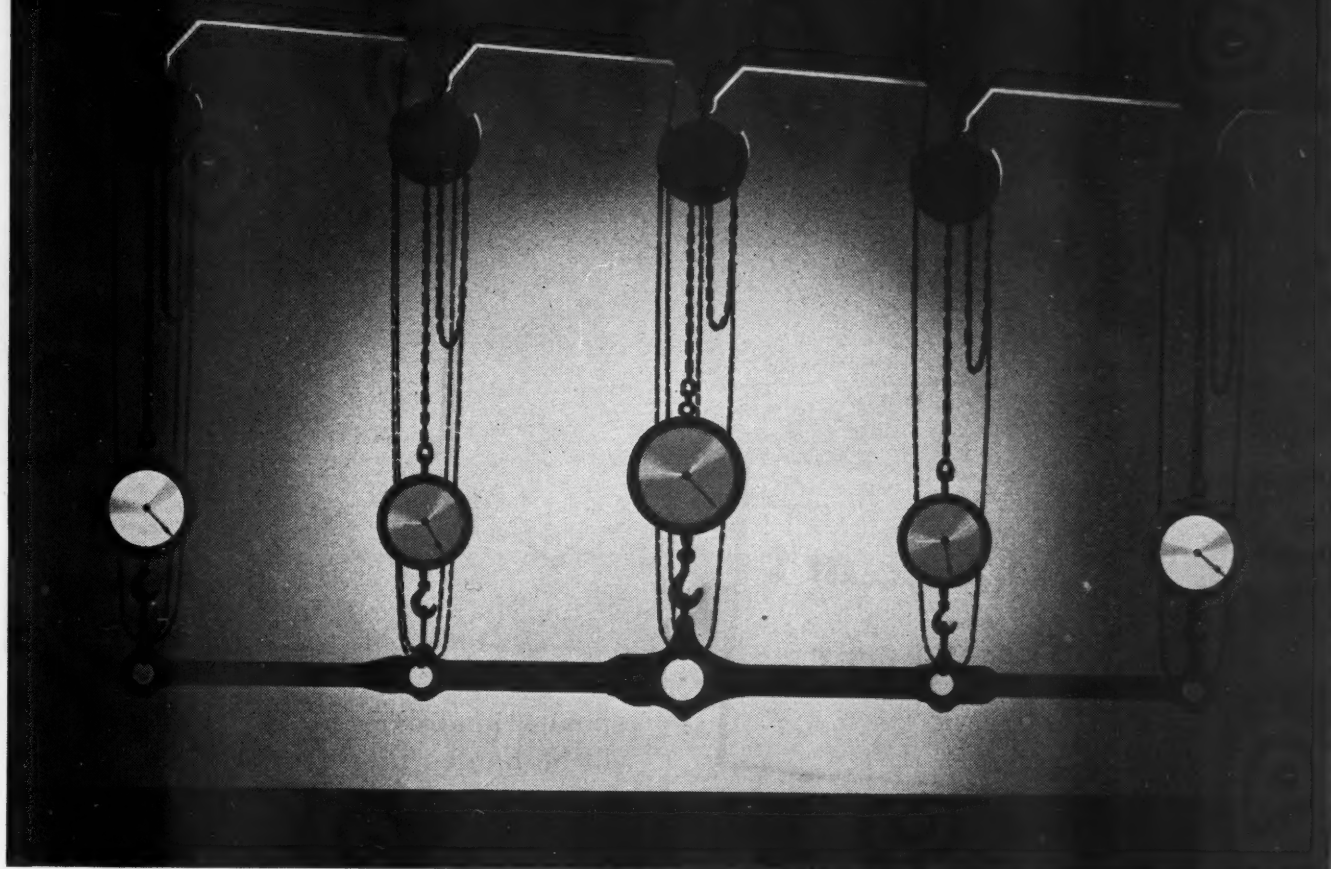
WHEN Victory is won, PRESSED STEEL CAR will continue to pioneer in the building of passenger and freight cars.

PRESSED STEEL CAR'S research and engineering staffs, which have demonstrated exceptional ingenuity and versatility in the design and production of war goods, are preparing the peace-time marvels of tomorrow.

What we have learned about new alloys, synthetic chemicals, plastics, new fabrics, improved welding and new assemblies, under the impetus of war, will be forged into newer designs of passenger cars — which will be safer, more economical, durable, more comfortable, and more attractive. As yesterday, so tomorrow PRESSED STEEL CAR'S sole purpose is to help give the railroads the finest in rolling stock.

PRESSED STEEL CAR COMPANY, INC.
PITTSBURGH, PA.

Simplified method for weighing rod assemblies



Information supplied by a Railway Publication

Weighing locomotive rod assemblies as a preliminary to determining correct counterbalance weight has always been a mean job. Ordinarily it requires a lot of time, effort and infinite patience to secure accurate results.

One railroad shop has developed a method of weighing that both simplifies the job and improves the accuracy of the results. In addition, the time and labor required are greatly reduced.

The apparatus consists of five chain hoists and

five weighing scales, all suspended from a 12-inch I beam. The center hoist and scale are both 5,000 pounds capacity, the others being 2500 pounds.

When weighing assemblies the 5,000 pound hoist and scale are hooked to the center bushing, and as many of the other hoists as necessary hooked to the other bushings. One mechanic can hoist the assembly, level it by means of a bubble gauge, and read the weights in a relatively short time.

CLIMAX FURNISHES AUTHORITATIVE ENGINEERING DATA ON MOLYBDENUM APPLICATIONS.



MOLYBDIC OXIDE, BRIQUETTED OR CANNED • FERROMOLYBDENUM • "CALCIUM MOLYBDATE"

Climax Molybdenum Company
500 Fifth Avenue • New York City

Rails are the highways to Victory

**...but they can't
wear forever**

Virtually every war weapon produced in this country moves halfway to battle on rail lines. As raw materials or finished products...from mines to mills and factories...from production lines to shipping ports, the enormous weight of our war effort is carried on steel rails.

In 1942 alone over two billion tons of war materials moved over American rail lines, travelling an average distance of 226.5 miles per ton hauled. In 1943 it is

estimated that more ton-miles of freight will be hauled than in 1918 and 1939 combined.

Keeping our thousands of miles of track in shape for this huge job requires constant, skillful maintenance. It also requires adequate replacement rails, for even the strongest steel rails can't stand up indefinitely under such unprecedented traffic.

We know from our long association with the railroads, the marvels of track maintenance they have already performed. We join them in the hope that their present needs for replacement materials will be met soon enough and in sufficient quantity to permit continued swift movement of their essential war loads.

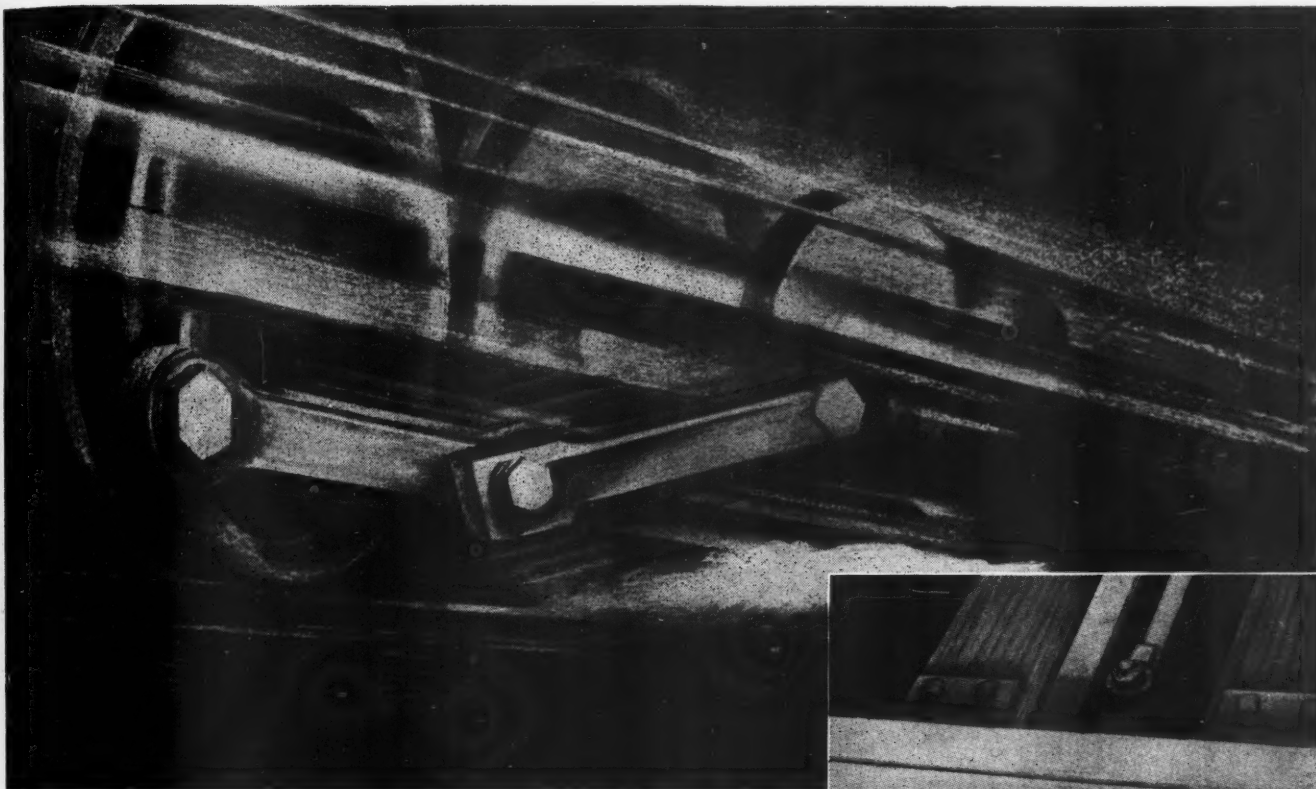
★ BUY UNITED STATES WAR BONDS ★



AIR REDUCTION

General Offices: 60 EAST 42nd STREET, NEW YORK 17, N. Y.

In Texas: MAGNOLIA AIRCO GAS PRODUCTS CO. • *General Offices:* HOUSTON, TEXAS



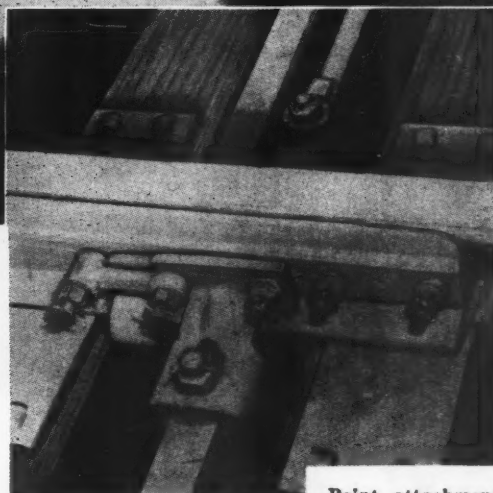
PREVENT POINTS FROM OPENING UNDER A TRAIN... *at hand-operated switches*

Install the *RACOR Switch Point Lock*! Safeguard trackwork and rolling stock, as well as lading, and avoid unnecessary interruptions to traffic. The Racor Switch Point Lock protects the switch, even if the stand is knocked down. Its mechanism is entirely separate from the stand and located below the top of the ties.

Other outstanding Racor Switch Point Lock features:

- 1 Easy installation and maintenance.
- 2 Simple and accurate adjustment.
- 3 Convenient treadle release, which does not delay opening of switch.
- 4 Direct clamping of locking rod to switch points.
- 5 Impossible to insert padlock unless switch is properly closed.

Why not ask our representative for detailed information?

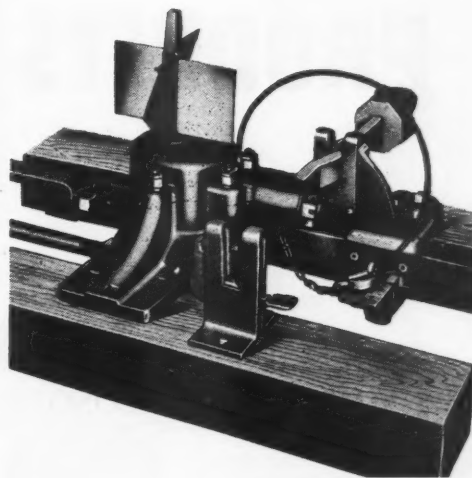


Point attachment showing locking rod clamped to switch points.

Style 3911 for High Stands—normally padlocked as shown but hand lever may also be padlocked or simple interlocking means provided.



Brake Shoe



Style 8912 for Ground Throw Stands. Note that one padlock provides positive locking and prevents raising of hand lever.

3320

RAMAPO AJAX DIVISION  **230 PARK AVE., NEW YORK**

HILLBURN, N. Y. • NIAGARA FALLS, N. Y. • CHICAGO, ILL. • EAST ST. LOUIS, ILL. • PUEBLO, COLO. • SUPERIOR, WIS. • LOS ANGELES, CAL. • SEATTLE, WASH.
NIAGARA FALLS, ONTARIO

LOGISTICS

... another
Wartime
problem
made easier
by

AMCRECO
Creosoted
PRODUCTS



AMERICAN CREOSOTING COMPANY

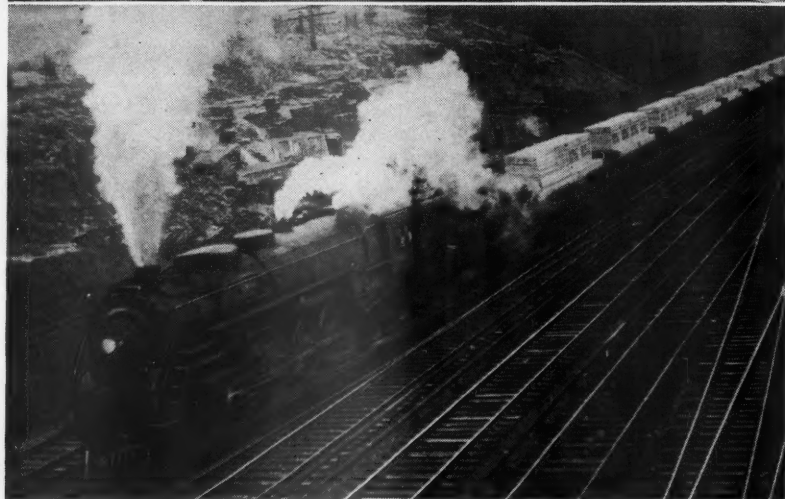
INCORPORATED

COLONIAL
CREOSOTING
COMPANY
INCORPORATED



GEORGIA
CREOSOTING
COMPANY
INCORPORATED

ADDRESS INQUIRIES TO CHICAGO, ILL., OR LOUISVILLE, KY.



THE SUPERCHIEF - CHIEF - EL CAPITAN
CHAMPION - THE ZEPHYRS - HIAWATHA
OLYMPIAN - THE 400'S - ROCKETS
GOLDEN STATE LIMITED - THE REBELS
PANAMA LIMITED - THE EAGLES
20TH CENTURY LIMITED - MERCURY
YANKEE CLIPPER - BROADWAY LIMITED
COMMODORE VANDERBILT - SOUTHWIND
EMPIRE STATE EXPRESS
LIBERTY LIMITED

THE use of roller bearings on all types of locomotives
and cars seems to offer the railroads the largest return on
any single equipment investment they could make.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

TIMKEN
TRADE-MARK REG. U. S. PAT. OFF.
TAPERED ROLLER BEARINGS

LARK NORTH COAST LIMITED
SPIRIT OF ST. LOUIS - SILVER METEOR
CITY OF LOS ANGELES - CITY OF DENVER
CITY OF SAN FRANCISCO

NO MUSCLE REQUIRED *to transport* TONS



Automatic
TRANSPORTER



TRANSPORTER

PLATFORM TYPE

Model "TN-4 and TW-4" 4000 Pound Capacity and Model "TN-6 and TW-6" 6000 Pound Capacity "TRANSPORTER" Platform Type Lift Trucks for Skid Platforms. Standard Platform Lengths 36" to 72" in 12" Steps. Widths 20" and 26½"; Heights in Low Position 6"; 7"; 9"; 11".

MANPOWER-NO PROBLEM

★*Inexperienced Help*—girls or men—with the TRANSPORTER can move thousands of pounds of materials in a minimum of time and,—it doesn't take muscle either—the TRANSPORTER does all the "muscle work"—the operator merely guides the load, holding the handle in which are located the controls for starting, braking and reversing.

Here is speed, safety, cost savings—in intra-plant transportation. This battery powered equipment is adaptable to short hauls and for use in elevators, narrow aisles, and areas where floor loads are restricted. It supplements larger industrial trucks to effect a complete handling system.

Write for Details

**POSITIVE
MECHANICAL
BRAKE**

**FRONT WHEEL
POWER DRIVE**

**CONTROLS IN
STEERING HANDLE**

**SHOCKLESS HYDRAULIC
PLATFORM LIFT WITH EASY
FOOT CONTROL**

Write
FOR DETAILS

AUTOMATIC TRANSPORTATION COMPANY

Div. of the Yale and Towne Mfg. Co.

51 WEST 87th STREET

CHICAGO 20, ILLINOIS

MANUFACTURERS FOR OVER 35 YEARS ELECTRIC PROPELLED INDUSTRIAL TRUCKS



OIL FOR THE WHEELS OF AMERICA

Ceaselessly as the flow of the very cargo they carry, no phase of transportation is more deserving of the nation's plaudits than those truck fleets engaged in the vital business of delivering the life blood of industry, as well as our fighting forces, to the exact spot where and when it is needed ★ Flaunting the elements, these mastodons of the highway and the intrepid men who operate them rely heavily upon genuine Bendix-Westinghouse Air Brakes and Pneumatic Controls for the safe, efficient, economic operation the very nature of the service

demands ★ With this World Standard of Safety, even the heaviest units may be controlled with greater ease than the average pleasure car... And just as though this isn't enough, ask any operator what genuine Bendix-Westinghouse Air Control means to him in the dispatch of his daily duties, address the factory, or contact any one of the nation-wide network of authorized distributors.

**BENDIX-WESTINGHOUSE AUTOMOTIVE
AIR BRAKE COMPANY... ELYRIA, OHIO**

Bendix-Westinghouse

AIR BRAKES

AND PNEUMATIC CONTROL DEVICES



IT IS SIGNIFICANT THAT AMERICA'S FINEST MOTOR TRUCK FLEETS ARE EQUIPPED WITH BENDIX-WESTINGHOUSE AIR BRAKES



What! No. 16 "Torpedoed" on Dry Land?

No. 16 is safe from U-boats. Yet the temporary loss of vital cars due to faulty wheels can be as serious in its way as torpedoing on the high seas. By equipping with the proper ARMCO Wheel you can help reduce these interruptions to the smooth flow of men and materials.

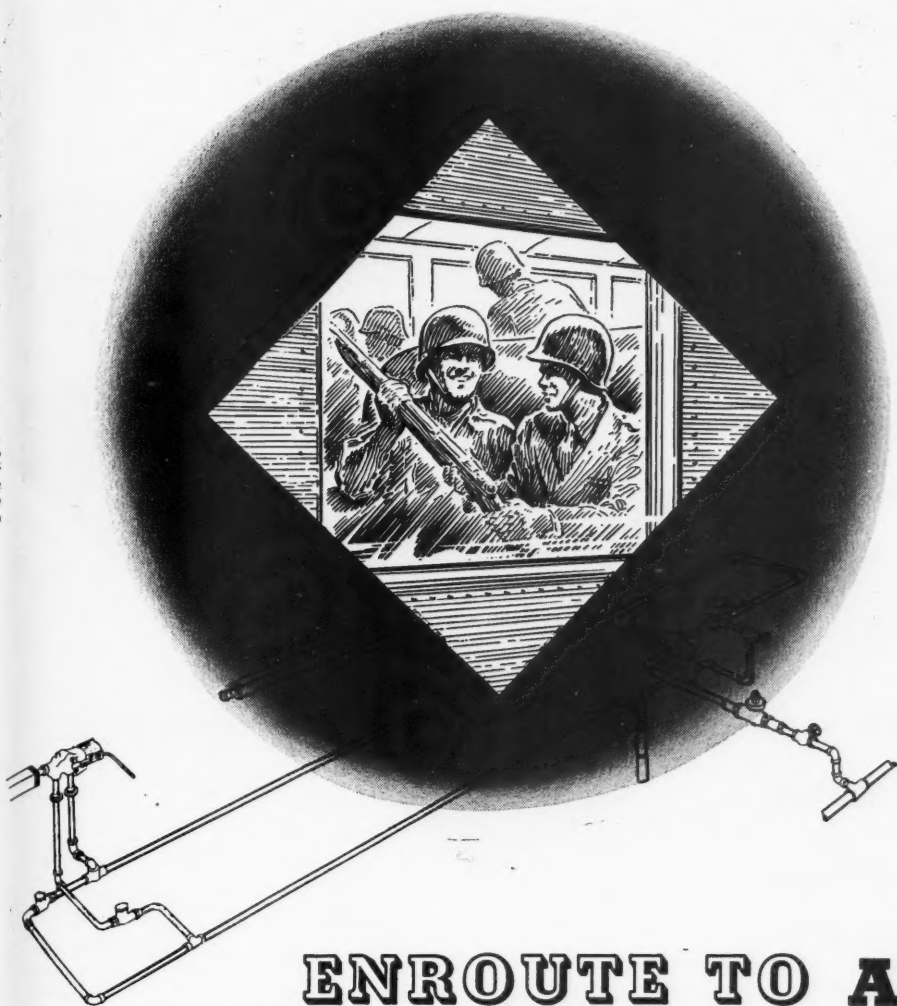
These extremely *railworthy* wheels not only start rolling with the lowest possible internal stress, but they strongly resist stresses built up in service. There is a correct type for every purpose. For one thing, you can get more resistance to thermal cracking than from any other wheel . . . or shelling can be greatly reduced

without sacrifice of thermal cracking resistance. Where needed, these two properties can be balanced to meet your specific requirements. All ARMCO Wheels have hubs that permit a true, taperless bore.

Leading the list is the ARMCO Stress Resistant Wheel. Here is a wheel that endures much tougher going than any other wheel ever did. It resists the conditions that cause failure, and does it without sacrificing an inch of mileage performance. Ask the ARMCO Man for complete data on this as well as other types of ARMCO Wheels. Armco Railroad Sales Co. Inc., 811 Curtis Street, Middletown, Ohio.



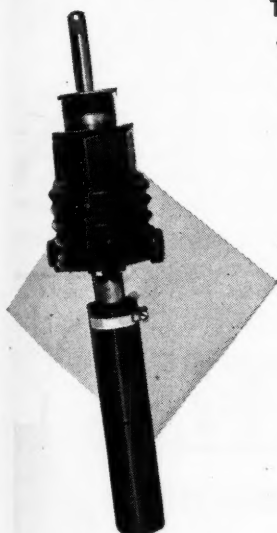
ARMCO WROUGHT STEEL WHEELS



ENROUTE TO ATTACK AND WHEN THEY GET BACK...

Troop cars being built for war-time use are heated with Vapor Zone Systems, thus helping to keep our fighting men comfortable as they move from one training point to another or head for points of embarkation. Many other improvements that have been developed for the war effort by Vapor Company engineers will be available for the peace-time comfort of the traveling public.

And for the present—to reduce maintenance, save steam, keep older heating systems in efficient operation—apply Vapor Economy Enclosures. For additional suggestions in maintaining your heating systems at peak efficiency write for circulars 1008A, 1008B, 61-700, and 1004.



The Vapor Economy Enclosure



1008A,



1008B,



61-700,



1004.

VAPOR 'CAR
RAILWAY EXCHANGE

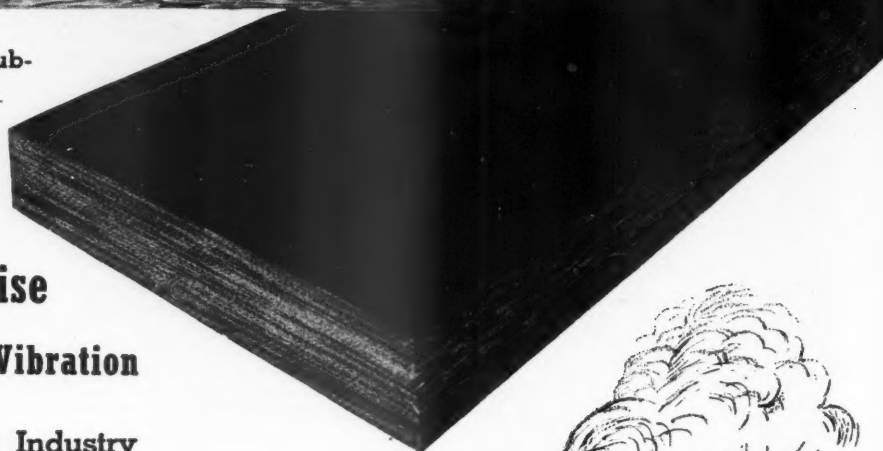


HEATING CO.
CHICAGO, ILLINOIS



OFFICIAL U. S. NAVY
PHOTOGRAPH

FABREEKA is used on these submarines to reduce noise on various types of motor driven equipment and machinery.

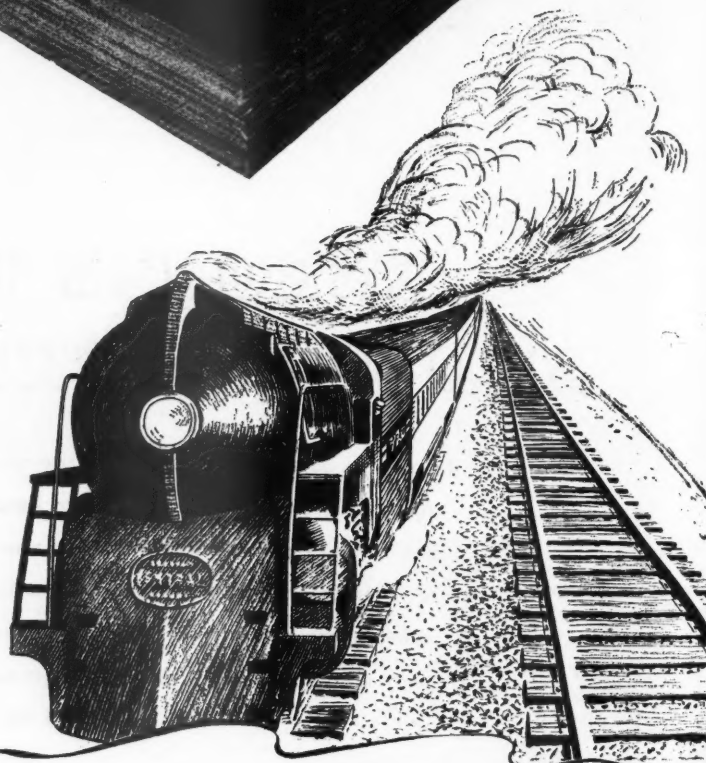


FABREEKA Isolates Noise

Absorbs Shock • Reduces Vibration

First used by the Railroad Industry to absorb shock, vibration and noise, FABREEKA is now widely used for the same purposes by the Armed Forces. This wartime experience will be available to the Railroads in solving many mechanical and engineering problems.

The pioneering of FABREEKA by the Railroads has been fully vindicated by its extensive use on various types of war equipment.



FABREEKA

FOR IMPACT SHOCK AND VIBRATION

FABREEKA PRODUCTS COMPANY
Incorporated
BOSTON 10, MASS.



GOULD BATTERIES HAVE EARNED THEIR SERVICE STRIPES IN SERVING AMERICAN INDUSTRY

Back in the days when storage batteries were known as "accumulators" Gould began manufacturing batteries to meet specific needs. Today Gould batteries have earned their service stripes in every type of American industry.



The Rochester Telephone Company of Rochester, N. Y., like many of the nations' telephone systems, uses Gould batteries to maintain a constant supply of current for their telephone operations.



Among the many American railroad companies employing Gould batteries in Deisel switch engines and for other important operations is the Chicago, Burlington & Quincy R. R.



vehicle used for materials handling.

In factories and warehouses of numerous manufacturers like the American Can Company, Gould batteries supply power for platform trucks, tractors, skid lift trucks, and any electric



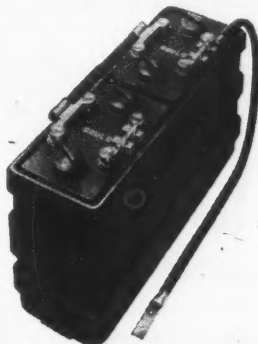
Gould Storage batteries are standing by in the Doctor's Hospital of Washington, D. C., and other leading hospitals to insure light and power in case of service failure.



The Koppers Coal Company of Grantown, W. Va., is but one of the many mining companies depending on Gould batteries to supply motive power to mine locomotives and shuttle cars.



Gould storage batteries are meeting the rigid standards of the United States government in delivering power for fire control on battleships, for the under-water propulsion of submarines and by our air forces for every battery application.



SPECIFY GOULD KATHANODE . . . The original spun glass battery tested by twenty years of actual service.

Rated Conservatively . . . Goulds equal or exceed in capacity any battery of comparable size and cell structure.

GOULD STORAGE BATTERY CORPORATION, DEPEW, NEW YORK

Builders of industrial batteries for every application. Sales and service offices in principal cities of the U. S. A. Factories at Depew, N. Y., North Bergen, N. J., Dallas, Atlanta, Chicago, St. Paul, Leavenworth, Los Angeles



FOR EXCELLENCE IN STORAGE BATTERY PRODUCTION AT DEPEW PLANT

GOULD

Since 1898 THE BATTERY PICKED BY ENGINEERS

PUT IT ON THE RECORD

One of a series of service suggestions for users of industrial batteries.

► Battery life can be greatly extended when accurate records of individual cell voltages, gravities and water consumption are continuously maintained. So important to battery life is the compilation of complete records, that Gould employs a staff of service men, who are charged with the responsibility of helping customers to install a service record system to meet their needs.

Records are the eyes of battery service. For example, an individual cell in an industrial truck battery owned by a large battery user, showed up on the record as having a voltage at variance with other cells in the same battery. As time went on this difference became more and more pronounced, and a Gould service man was called in. Upon inspection, a cracked separator was uncovered as being the cause of the trouble, whereupon it was replaced and the battery put back into service within two hours.

By contrast, where records were not kept, another case of a similar nature was not discovered until a routine Gould service call was made. The cell in this battery had been worked beyond the point of reversal. Sulphation had set in, and the element had to be replaced.

Here you have an example of actual saving in man-hours and materials achieved through the use of an up-to-date battery service record system.

Modern record systems will always lengthen life and improve operating efficiency. The control engineer knows the importance of a record system. Battery records are a part of his business. All floating batteries in his charge may last 8 or 16 years depending upon a very slight variance of cell voltage.

We would like you to know the Gould men who will take care of your industrial storage battery requirements.

Serving the Upper Ohio River area are S. E. Gane located in the Fifth & Grant Building, Pittsburgh, and E. J. Schneider, whose office is at 105 E. Third St., Room 202, Cincinnati, Ohio. In this same area Gould is represented by E. J. Boyle of the E. J. Boyle Co., Fifth & Grant Building, Pittsburgh, Pa., and F. R. Prather of the Rawlplug-Cincinnati Co., 105 E. Third St. Cincinnati, Ohio.



STANDARDIZE WITH EX-CELL-O PINS AND BUSHINGS

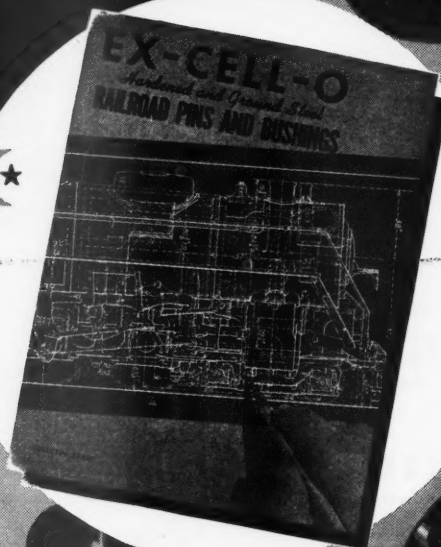
Ex-Cell-O hardened and ground steel bushings and pins are now used by more than 125 railroads and manufacturers of railroad equipment. Experience has shown that from four to six times longer service is obtained when Ex-Cell-O products are used. . . . The parts to which Ex-Cell-O pins and bushings are applied wear longer, as do also other parts which suffer from shock and rigorous service when improperly made bushings and pins are used. . . . Ex-Cell-O offers *hardened and ground bushings and pins* and expert engineering service to help you obtain better and more economical performance.

EX-CELL-O CORPORATION • DETROIT

XLO

★ **EX-CELL-O for PRECISION** ★

For complete list of standard sizes and other data on railroad hardened and ground steel pins and bushings, send for Bulletin 32301.



Every mile that mobile fighting equipment is carried by the railroads saves gasoline and rubber for use at points of service: Schaefer Forged Steel Foundation Brake Gear Appliances, standard on most lines, assist in this conservation effort.

Railroads interested in a regular equipment-repair program should weigh the value of Schaefer equipment in the light of its sound structure and its longer service life.

LESS WEIGHT

LONGER LIFE

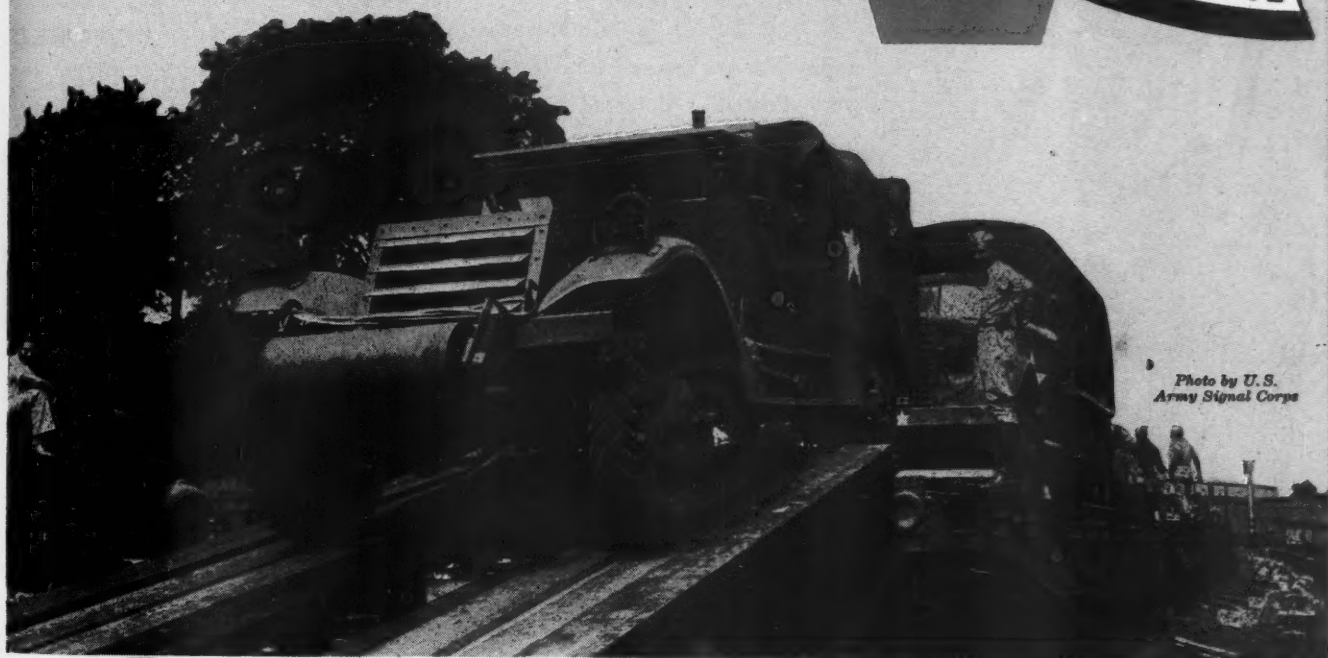
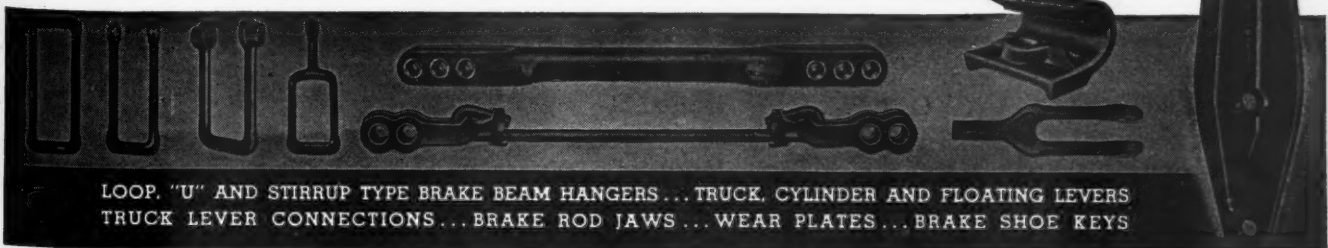


Photo by U.S. Army Signal Corps

Schaefer

EQUIPMENT COMPANY

KOPPERS BUILDING • PITTSBURGH, P.A.



LOOP, "U" AND STIRRUP TYPE BRAKE BEAM HANGERS... TRUCK, CYLINDER AND FLOATING LEVERS
TRUCK LEVER CONNECTIONS... BRAKE ROD JAWS... WEAR PLATES... BRAKE SHOE KEYS



BUY TODAY
— **GOOD FOR**
TOMORROW

In buying JACKSON vibratory Tampers and Portable Power Plants today you are assured time-tested, wide-range track servicing equipment for your Post-War deferred maintenance program. The ruggedness and dependability of JACKSON equipment is demonstrated in the many units operating efficiently today that were purchased 15 to 20 years ago. These track maintenance "veterans" and their modern brothers can be used by any size gang for the following operations:

- Ballast renewals in lifts up to 6".
- General surfacing in any ballast or lift.
- Spot tamping.
- Digging out ballast or skeletonizing.*
- Drainage improvements, ice removal from platforms, around water columns, frogs, switches and flangeways.

*U-609 Digging blade designed for fast digging, and removal of old ballast. Will do the work of several men with picks.

The highly efficient Step-Cut tamping blade is one of several interchangeable blades available for use on the JACKSON Universal Tamper.

ELECTRIC TAMPER & EQUIPMENT CO., LUDINGTON, MICH.

JACKSON
Tampers

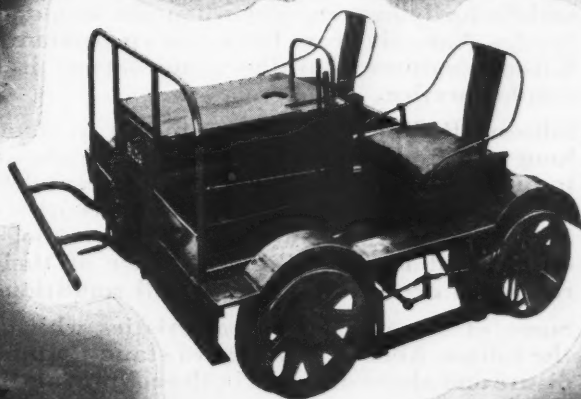
Box Cars that kneel...

to be loaded -

SOMETIMES called the "Desert Box Car" the camel was used for transportation, across the Desert of Iran, long before the Iran railway came into existence.

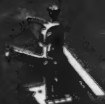
Maintenance-of-way crews on railroads in all parts of the world rely on Buda motor cars for safety... ease of handling and efficient performance on the job.

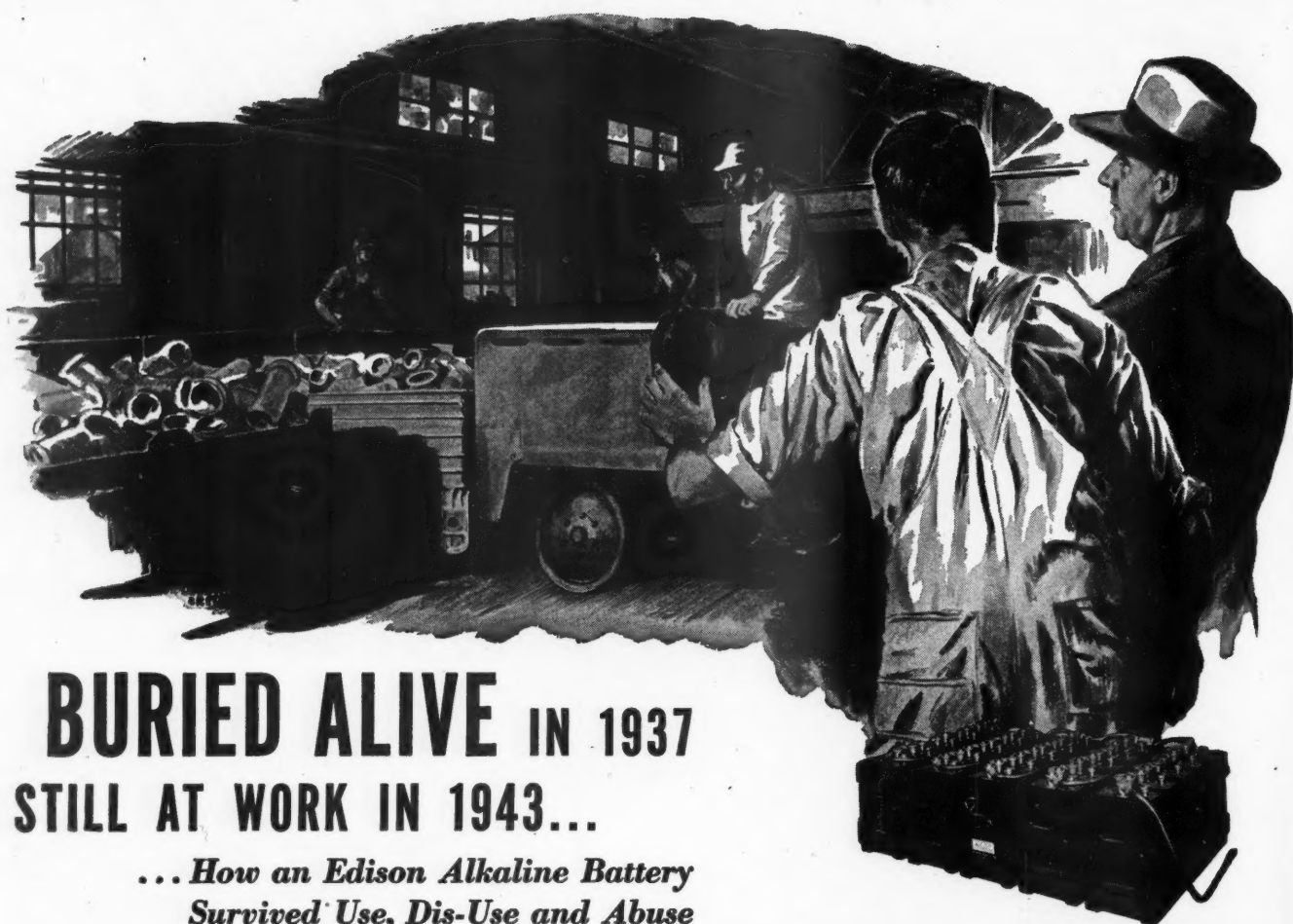
Wire or wire for bulletin.



BUDA

HARVEY (Chicago Suburb) ILLINOIS





BURIED ALIVE IN 1937 STILL AT WORK IN 1943...

*...How an Edison Alkaline Battery
Survived Use, Dis-Use and Abuse*

In 1937, a midwestern foundry changed hands after being shut down six months. The electrician of the new owners, in the course of putting the industrial trucks into operation, found one of the batteries buried under a mound of earth beside an open trench.

He knew it must have been there at least six months and, although it was an Edison Alkaline Battery, he was naturally doubtful whether it was still serviceable. Nevertheless, he ordered it cleaned, painted and charged. Much to his surprise, it performed satisfactorily in every way when put into one of the trucks. Now, six years later, the electrician tells an Edison engineer that the same battery is still in regular service.

Edison Alkaline Batteries are meant to stand use—long use and hard use, in mines, railroads and industry. They can also stand disuse, indefinitely, if discharged, short-circuited and properly stored. But the fact that they can, and often do, survive outright abuse is striking evidence of their great reserve of dependability under all conditions.

Some of the unique characteristics which enable the Edison Alkaline Battery to stand up under use, disuse and abuse are cited in the column at the right.

ADVANTAGES OF THE EDISON ALKALINE BATTERY FOR RAILWAY-CAR SERVICE

- ★ It is light in weight. Its use reduces total car weight. It is easy to handle.
- ★ It is durable mechanically. High strength steel construction is used in the container, grids, pole pieces, etc. The electrolyte is a preservative of steel. It requires no renewal of separators throughout its long life.
- ★ It is foolproof electrically. It withstands the over-charging and over-discharging inherent in railway-car service. It is not injured by accidental charging in reverse.
- ★ It can be charged rapidly. It may be charged at full normal rate throughout the entire length of charge and is not subject to finish rate limitations. It requires no equalizing.
- ★ It withstands temperature extremes. It is not damaged by freezing. Free air spaces on all sides of all cells provide ventilation for rapid cooling under high temperature conditions.
- ★ It is free from ordinary battery troubles. It is not subject to sulphation, shedding of active material, buckling of plates, jar breakage or other common causes of battery failure.
- ★ It is simple to maintain. Merely charge adequately, add pure water, keep clean and dry.
- ★ Its tray assembly and cell connections are extremely simple.
- ★ Its life is so long that its annual depreciation cost is lower than that of any other type of storage battery.

EDISON STORAGE BATTERY DIVISION, THOMAS A. EDISON, INCORPORATED, WEST ORANGE, NEW JERSEY

Edison

ALKALINE BATTERIES

A medal for Nancy...

LITTLE Nancy Jane is only six. She stood alone, with all the inborn dignity of childhood, in that historic room amid the admirals, the senators, the great and near-great grown-ups.

She heard a deep, resonant voice say:

"For conspicuous gallantry over and beyond the call of duty, the Congress of the United States of America awards the Congressional Medal of Honor to Marvin Clayton — Lieutenant-Commander, United States Navy—killed in action at the victorious Battle of Midway."

And then a blue ribbon passed over her head. And looking down, she saw a gold medal at the end of the ribbon nestling against her dress.

Little Nancy Jane is only six. She's too young to understand the words of the citation—not quite old

enough to realize that this blue-ribboned gold medal is the highest honor our nation can bestow on its heroes.

But not too young to know that never-more will she feel those strong, gentle hands tucking in her blanket...or hoisting her high in the air for a morning kiss...or patiently guiding her pencil as she scrawls a birthday greeting to Grandma!

Little Nancy Jane is only six—and fatherless! However long actual fighting goes on—this war means sacrifice for little Nancy Jane for the rest of her life!

Every single second lost today on our production lines...every hoarded bit of food, rubber and metal...every moment of complacency or face-saving or temporizing...means more children become fatherless.

Each of us owes something to Nancy Jane's dad...and to Nancy Jane!

The men and women of Weatherhead sponsored this message. Most of us have near relatives in uniform...sons, husbands, brothers...sisters and daughters, too. Our task is not dramatic...but it is vital to every single big weapon. For years we have been making for peacetime purposes the same fittings and devices we are making today. However, responding to the urgent war needs of the nation, we have found ways of producing them in greater quantity than ever before—more than a million every twenty-four hours! So, you see, our skill is also one of the great weapons for winning the war and for building the kind of world we're all fighting for.

Albert J. Weatherhead, Jr. PRESIDENT

Weatherhead

THE WEATHERHEAD COMPANY • CLEVELAND, OHIO
Headquarters for fittings, hose assemblies, hydraulic devices and essential machine parts
Plants: CLEVELAND; COLUMBIA CITY, IND.; LOS ANGELES; ST. THOMAS, ONT.





47 Billion Passenger Miles in Seven Months

and **BALDWIN** Locomotives did their share

Passenger traffic for the first seven months of 1943 was the highest for any like period in history, reaching the staggering total of 47,950,172,932 passenger-miles. This represents an increase of 89 per cent over the first seven months of 1942.

While these passenger trains were moving over the rails, freight traffic, too, was breaking all previous records — an indication of the fine accomplishments of the American railroads.

Baldwin locomotives, only a few of which are shown here, have been hard at work hauling their share of this traffic which is so essential to victory.

NEW YORK, NEW HAVEN & HARTFORD

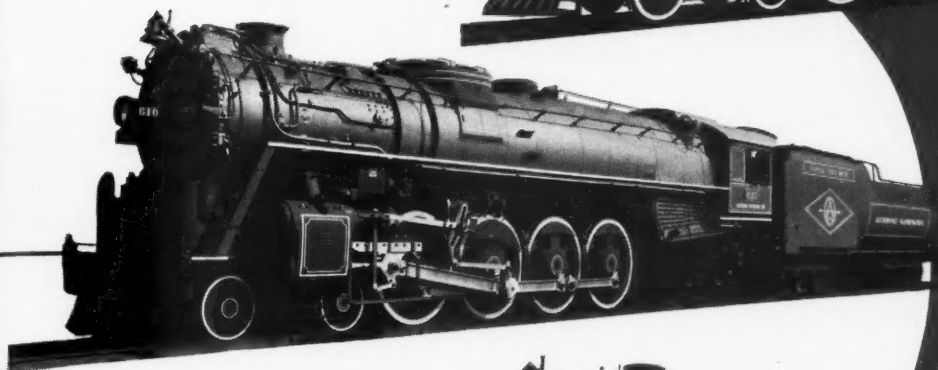
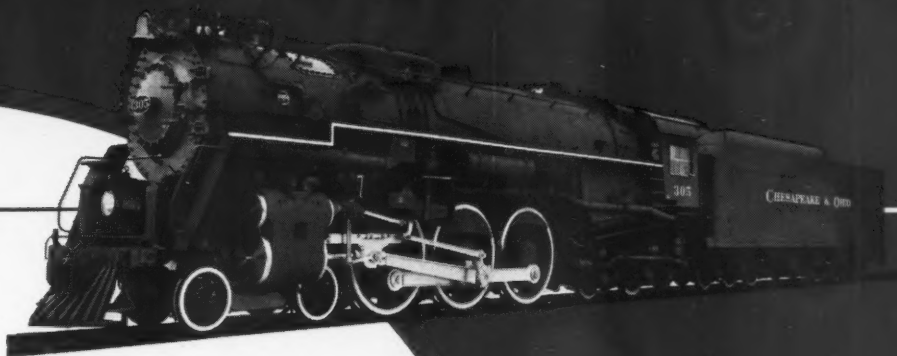


ST. LOUIS —
SAN FRANCISCO



BALDWIN SERVES THE NATION WHICH THE RAILROADS

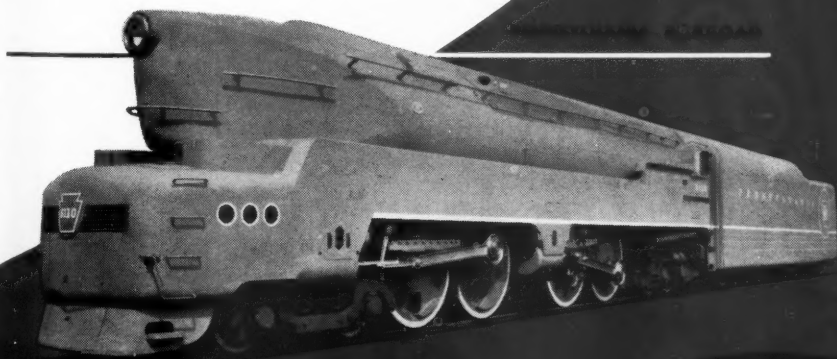
CHESAPEAKE & OHIO



NORTHERN PACIFIC



ATCHAFALAYA, TOPEKA & SANTA FE



HELPED TO BUILD



THE

BALDWIN

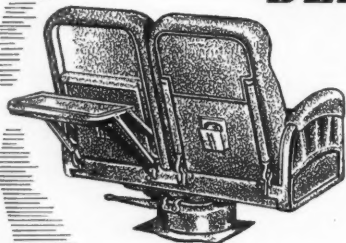
LOCOMOTIVE WORKS

Philadelphia, U.S.A.



HEYWOOD *changes*

STREAMLINED RAILROAD SEATS



into



CARGO BODIES FOR TRUCKS

Do YOU remember the sleek, luxurious Heywood seats which blossomed forth on the new Streamliners each year? Well, the very same Heywood workmen who built your deluxe railroad seats are now producing 1½ and 2½ ton cargo bodies for Army trucks . . . trainloads of them, every week.

These Heywood craftsmen turned out beautiful bus and railroad seats . . . and they turn out some mighty swell truck bodies, too! They may not have that sleek, swanky, "extra fare" look but they brought up men and supplies which helped to save the day in Tunisia, New Guinea, and around Orel.

With the necessary ODT and WPB restrictions on all passenger equipment, only limited amounts of Heywood bus and railroad seats have been made. But . . . we haven't forgotten a single one of you and more important to both of us after Victory . . . we haven't forgotten the "know how" when it comes to building seating for any type of transportation. We look forward to that day when we shall be sitting down together to solve seating problems with you, correctly, efficiently, and with some of the most beautiful Heywood chairs ever produced.



HEYWOOD-WAKEFIELD
Established 1826
GARDNER MASSACHUSETTS

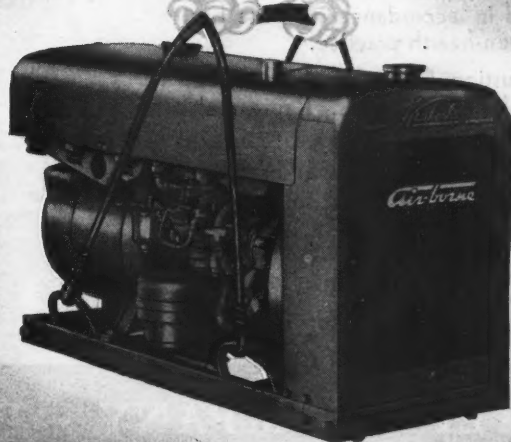
WAUKESHA

PRODUCTS

Light Weight for War...Light Weight for Peace

• Future railway equipment made by Waukesha will be an extension of war-time equipment. The light weight *and* the reliability now essential for military uses will be still further emphasized in peacetime applications to railway generating and air conditioning equipment and all auxiliary units. • Proof of this is the Waukesha *Air-borne* Engine Generator here illustrated, and only one of many Waukesha wartime units. It produces 7.5 kw yet weighs less than 400 lbs. At 50 lbs. per kw it sacrifices nothing in reliability, simplicity, or automatic control, as compared with familiar, conventional power plants of three to four times this weight. • Waukesha's engineering and production staff is now concentrating on America's war effort. Tomorrow—in peace—it will turn with equal diligence and skill to serve America's railways with light-weight, dependable, generating and air conditioning equipment. Include Waukesha in your postwar plans!

**50 POUNDS
PER
KILOWATT**



REFRIGERATION DIVISION

WAUKESHA MOTOR COMPANY • WAUKESHA, WISCONSIN
LARGEST BUILDERS OF MOBILE ENGINE-DRIVEN REFRIGERATION AND GENERATOR EQUIPMENT

Passenger Progress IS



THE excellent quality of Edgewater steel is widely known. Every phase of its manufacture has been established in accordance with the best and most modern open-hearth practice.

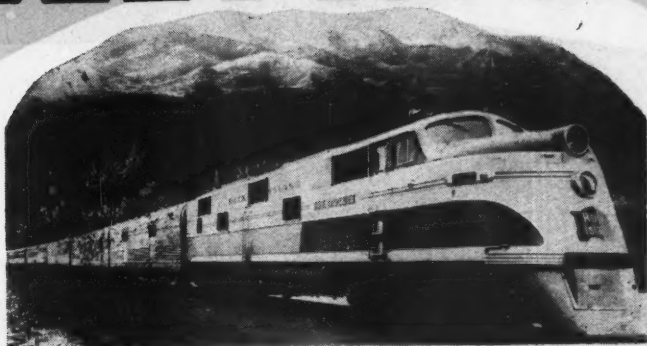
Automatic Combustion Control is installed to assist in securing uniform conditions. Rapid melting with slow refining is practiced.

In the manufacture of Edgewater Tires and Wheels, the most powerful mills ever built for this purpose are used. Forging and rolling is accomplished in one heating. Accurate temperature control is readily maintained so that rolling to final dimensions takes place at a desirable temperature.



EDGEWATER STEEL COMPANY • PITTSBURGH, P

WHEEL PROGRESS



IMPROVEMENTS in the manufacture of car wheels have contributed greatly to the safe operation of high speed trains.

Engineers at the Edgewater Steel Company have always kept their eyes on the increasing requirements—studied loads—stresses and collaborated with railroads in innumerable tests.

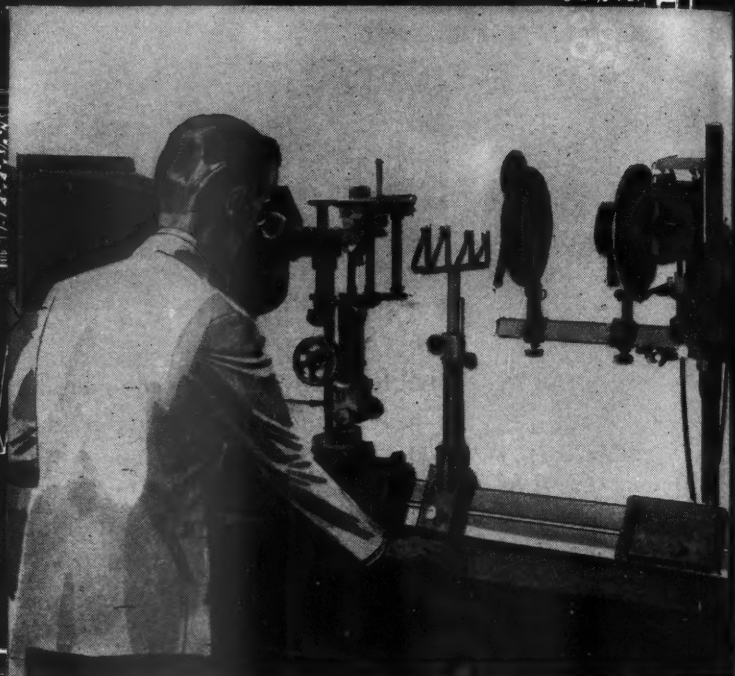
In the manufacture of Edgewater Rolled Steel Wheels every operation from the melt to the rolling and final inspection is rigidly supervised. Quality is the slogan and first consideration—Tonnage output is secondary. All members of the organization realize the part they play in the safety of the traveling public.



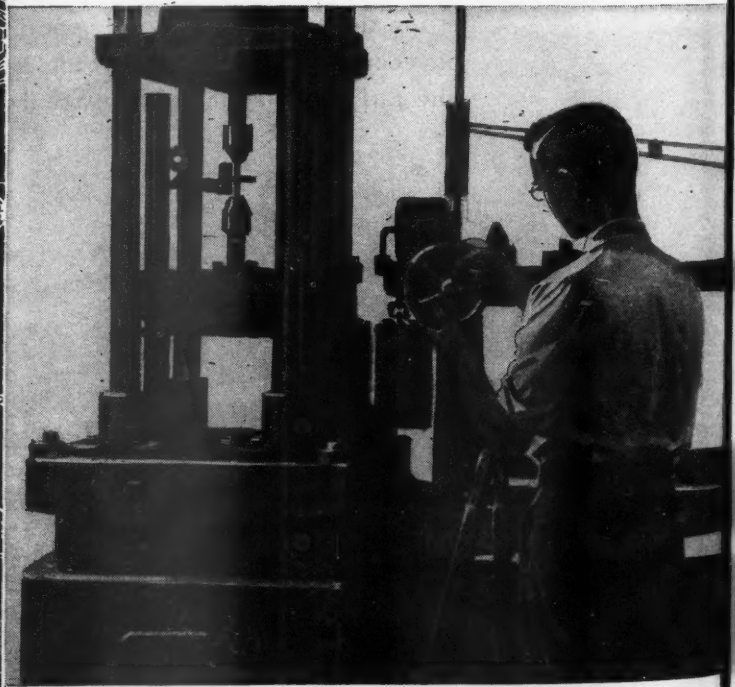
Atlanta, Ga. Baltimore, Md. Boston, Mass. Chicago, Ill. Cleveland, O. Kansas City, Mo. Louisville, Ky. New York, N. Y.
Philadelphia, Pa. St. Louis, Mo. St. Paul, Minn. San Francisco, Cal. Seattle, Wash. Tulsa, Okla. Washington, D. C.

**To
Railroad
Executives
Everywhere...**

ANNOUNCING



Metallurgical studies form an important part of the investigations of the behavior of fasteners under various service conditions.



A broad and thorough program of technical exploration, sponsored by the Institute, employs the facilities of outstanding technological laboratories.



... a program to help you use

FASTENERS

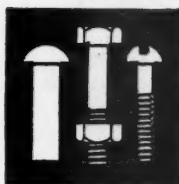
(Bolts, Nuts, Rivets, Screws)

➡ *More Efficiently*

➡ *More Economically*

➡ *More Effectively*

**Sponsored by the American Institute of
Bolt, Nut and Rivet Manufacturers**



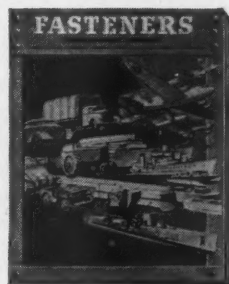
The basic dependability of Fasteners has led to their use wherever reliable connections are needed. Keeping abreast of engineering developments, makers of these products have constantly improved and refined the various items in their lines, making use of advanced metallurgical and precision manufacturing processes. As a result, higher strengths, closer tolerances, better finishes, etc. are available to engineers and manufacturers using bolts, nuts, rivets and screws.

To acquaint you with these advances, and to help you make fullest use of the products of the Fasteners industry, the Institute is sponsoring an informative campaign. New engineering data, application information

and product developments will be spotlighted in this activity.

FACTUAL DATA BULLETIN

One of the primary features of this activity will be a bulletin "FASTENERS" to be issued at regular intervals. It will contain authoritative and useful data and ideas that will help you make best use of fasteners. We will be glad to send it to you regularly at no cost if you are interested in learning more about the ever widening applications and possibilities of bolts, nuts, rivets, screws, and other headed and threaded products.

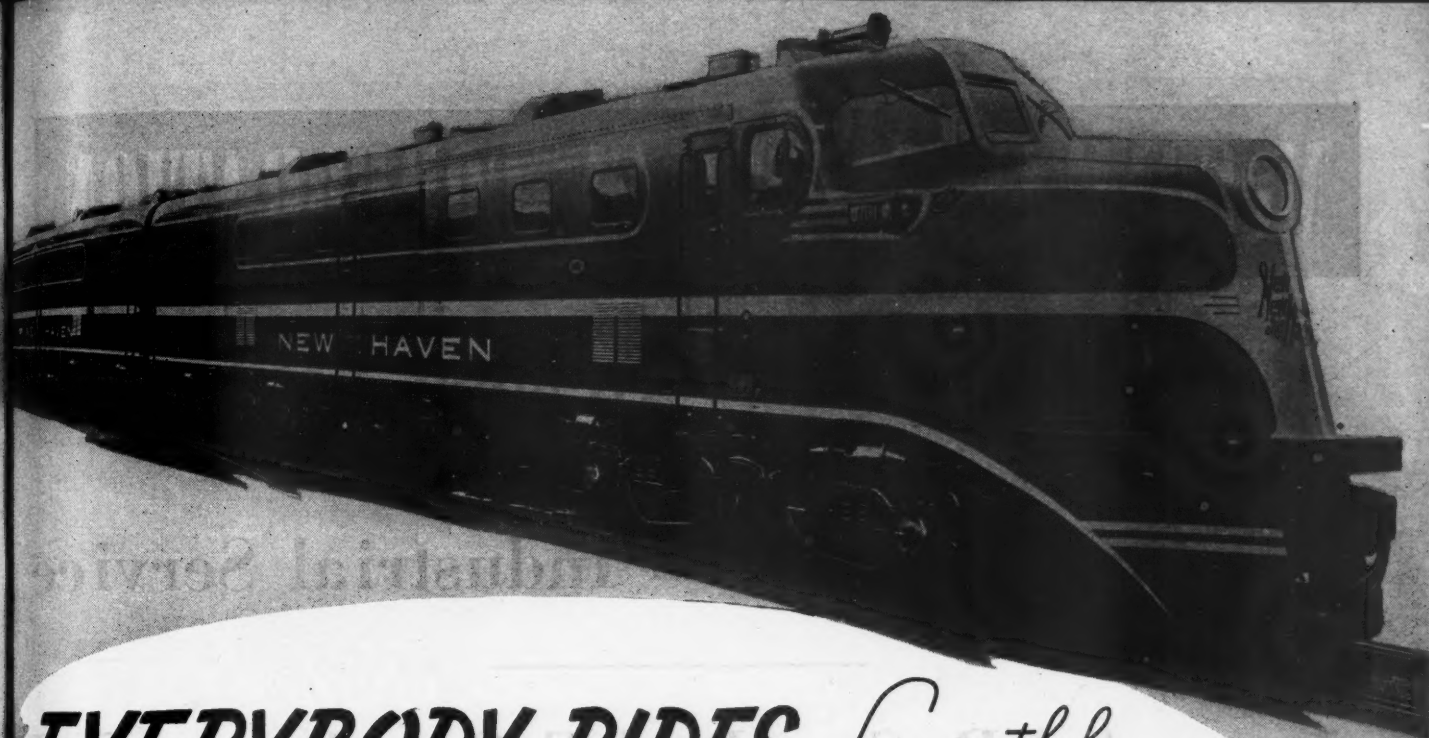


American Institute of Bolt, Nut and Rivet Manufacturers

1550 Hanna Building • Cleveland 15, Ohio

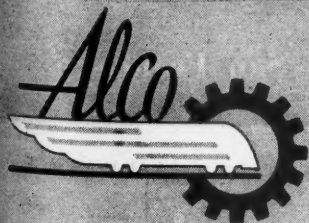






EVERYBODY RIDES *Smoothly* **ON "RAILWAY" SPRINGS**

Their Correct Design, Quality Materials and Scientific Heat Treatment assure long life and low maintenance thereby contributing much to the war effort by conserving vital material and reducing repairs.



AMERICAN LOCOMOTIVE COMPANY

RAILWAY STEEL-SPRING DIVISION

30 CHURCH STREET

NEW YORK, N. Y.

McCONWAY & TORLEY CORPORATION

Couplers *and* Attachments

FOR

Passenger, Freight *and* Industrial Service

A.A.R. Standard E Couplers

A.A.R. Standard Tight Lock Couplers

Pitt Pivoted *and* Pitt Rigid Type

Passenger Couplers

$\frac{3}{4}$ Size Contour Couplers

$\frac{1}{2}$ Size Contour Couplers

Steel Castings

Grade "B" *and* Alloy Steels

**GENERAL OFFICES
AND
WORKS**

PITTSBURGH, PA.

SALES OFFICES: Baltimore · Chicago · St. Louis · San Francisco

REAL STATISTIC!



*In 1943 Passenger Miles
HAVE INCREASED 4 TIMES FASTER
than Passenger Car-Miles*



Seat upholstery is wearing out four times faster than ever before! That's why most railroads are stepping up shopping schedules to re-upholster travel-worn seating. And that's why Chase has reserved ample production capacity to give prompt attention to all transportation requirements.

We invite as-early-as-possible receipt of your anticipated requirements for CHASE VELMO MOHAIR, SANVALE DRAPERIES and CHASE COATED FABRICS.



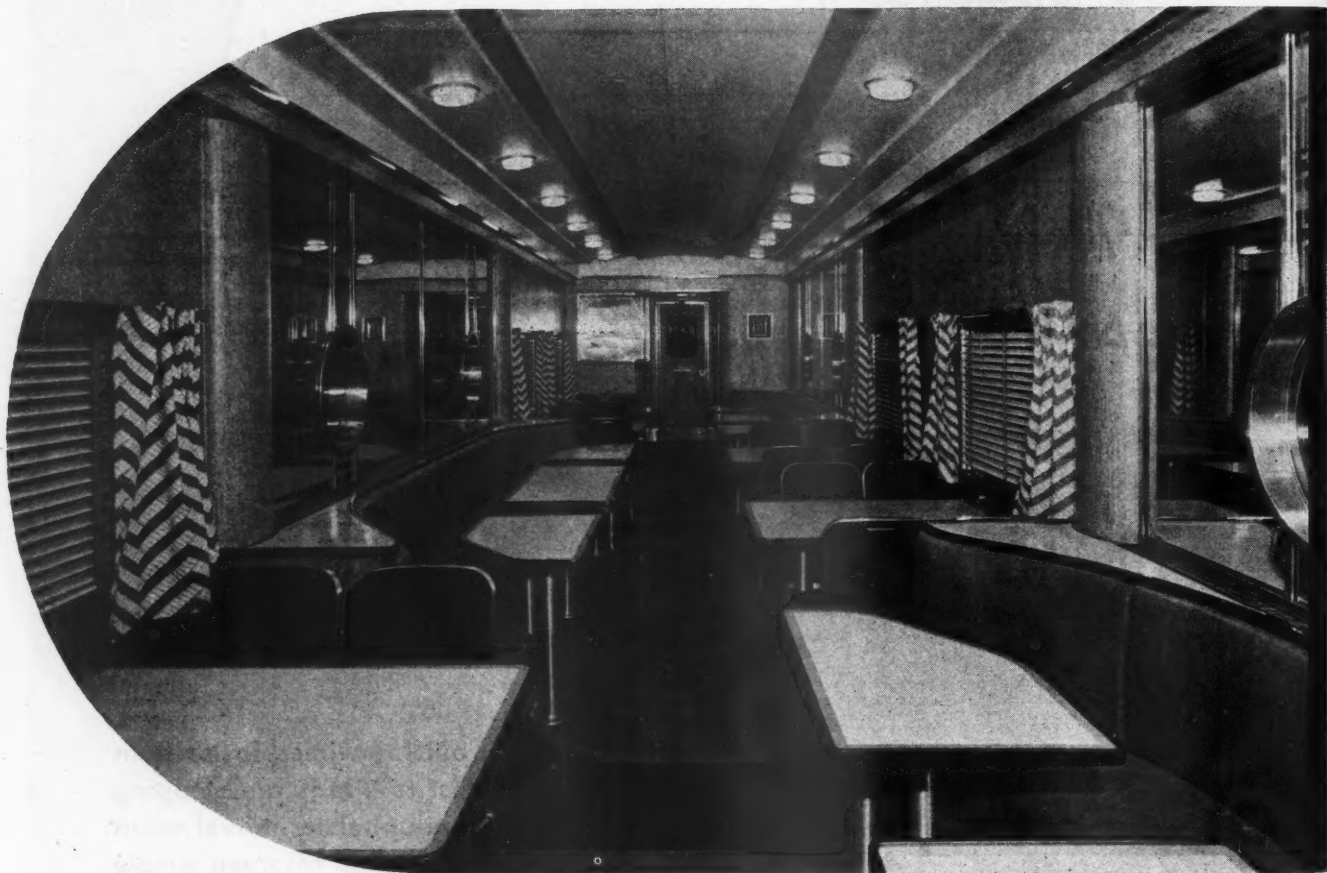
CHASE

**VELMO MOHAIR UPHOLSTERY
SANVALE DRAPERIES • COATED FABRICS**

L. C. CHASE & COMPANY • 295 Fifth Avenue, New York 16, N.Y.
Sales Division of Sanford Mills • Offices: BOSTON, DETROIT, CHICAGO, LOS ANGELES



IN THE COOL, SPOTLESS CARS OF THE FUTURE..



IN the new, light-weight, deluxe cars of the future about which designers are now dreaming, Formica wearing surfaces are likely to be even more widely used than they have been during the past ten years—when practically every deluxe train that went on the rails made some use of the material.

In its old uses for table tops, bar tops and paneling, shelving and window stools, Formica will be more durable than ever for new materials have made possible a sheet capable of taking three times as much surface wear—and it was always among the most durable of surfacing materials.

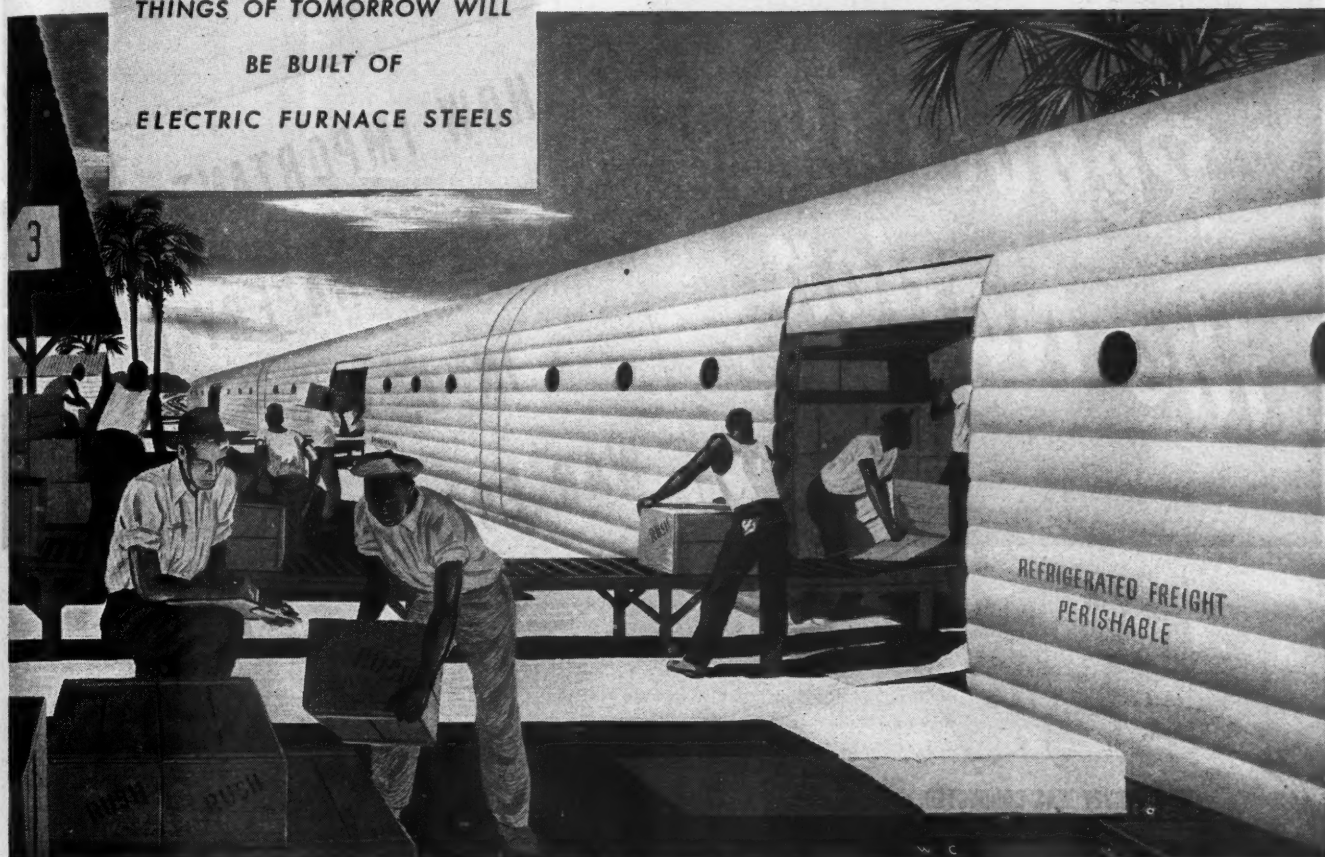
New colors and patterns will make the material more adaptable.

And now that a thorough test has proved its ability to maintain its original appearance under tough conditions, in the new cars it will doubtless appear on greater areas—for ceilings and side wall surfacing—in fact it is ideally suitable for most of the interior of the car.



THE FORMICA INSULATION CO., 4062 SPRING GROVE AVE., CINCINNATI 32, OHIO

THE LIGHTER, STRONGER, BETTER
THINGS OF TOMORROW WILL
BE BUILT OF
ELECTRIC FURNACE STEELS



Whisked to Market—by Streamlined Freight

Fruit—luscious with tree-ripened flavor. Vegetables—with that “just-picked” crispness. Some day you’ll enjoy them that way—rushed from distant groves and farms—kept fresh while in transit.

Light, strong streamliners, proved in passenger traffic, can speed perishable shipments. Advanced methods of refrigeration, insulation and air conditioning can preserve quality. Engineers already have demonstrated their ability to design the equipment. And, when they no longer are needed for war production, Republic Electric Furnace Steels will be available to build it.

Republic Electric Furnace Steels are the special steels, alloy steels, “aircraft quality” steels and stainless steels which have made possible countless improvements in products and methods.

You’ll find them in streamlined trains, in your car, in airplanes, in ships, in machinery and equipment—wherever the finest steels are needed—wherever the service is most severe.

You’ll find them in the American fighting equipment now proving

its superiority on battle fronts.

They are “targeted” steels—accurately hitting the bull’s-eye of exacting product and processing specifications, and held to the mark by the extremely close control possible only in electric furnace melting.

Many products have been increased in quality and enhanced in sales appeal through the application of these steels. Many more could be improved. And the consistent uniformity of mechanical and heat-treating properties enables manufacturers to real-

ize the full cost-cutting benefits of mass production methods.

With an electric furnace capacity nearly nine times what it was at the beginning of the war, Republic—leader in this field of steel-making—will be ready with finer steels for the production of better things to work with and to live with—in industry, in the home and on the farm. Republic Steel Corporation, General Offices—Cleveland 1, Ohio. Export Department: Chrysler Building, New York 17, N. Y.

REPUBLIC ELECTRIC FURNACE STEELS alloy...stainless...“aircraft quality”

—for hardness, toughness, high strength to weight ratio
—for resistance to severe tensional, torsional and compressional strains, to

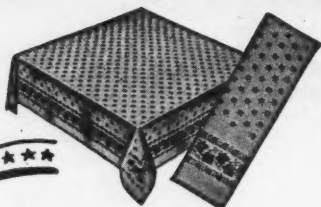


shock and impact, fatigue, elevated and sub-zero temperatures, corrosion, oxidation, abrasion and process contamination.

ROSEMARY MAKES A

Report to the Nation

HOW IMPORTANT
IS TABLE NAPERY
IN U. S.
WAR ECONOMY?



THIS SURVEY WAS CONDUCTED to determine the degree of
essentiality with which Table Napery is regarded by
various types of public dining service.

Here, at a glance, are the composite verdicts
of institutional users of Table Napery:—

HOTELS said: "table cloths and napkins
are virtually an indispensable part of effi-
cient operation."

RAILROADS remarked: "to dispense with
napery 'would be the last straw'."

HOSPITALS stated: "attractive food serv-
ice has a distinct therapeutic value."

RESTAURANTS reported: "dispensing
with napery could only result in extreme
hardship . . . fresh, clean linen is a great
morale builder."

CLUBS declared: "agreement is unanimous
that table napery forms a very important
part in food service."

COLLEGES, SCHOOLS, Y. M. C. A.'s
testified: "table napery is a 'must' among in-
stitutions of these types."



Rosemary
SALES

A DIVISION OF SIMMONS COMPANY

Dept. 3-B, 40 WORTH ST., NEW YORK 13, N. Y.

Detailed Report Soon Available

Now in preparation is a new booklet on "The
Importance of Table Napery—Its Use and
Care." It will tell you how to prolong the life of
your napery to meet the need for conservation
of textiles. Write to reserve your free copy.

ADD UP TO
90%
APPLICATIONS

8

- + 12% fuel saving
- + 13% increase in boiler capacity
- + 14% water saving
- + Increased draw-bar power
- + Fewer stops for water and fuel
- + Less boiler maintenance
- + Removal of 80% to 90% of corrosive oxygen from feedwater
- + Reduction of boiler scale accumulation

Superiorities like these account for the overwhelming choice in favor of Worthington's OPEN TYPE Feedwater Heaters. 90% of all recent orders for locomotives, including the orders for the six pictured on this page, specified Worthington.

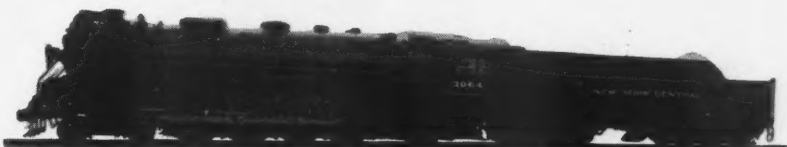
For descriptive literature and data on power saving results in new as well as modernized locomotives, write today to

**WORTHINGTON PUMP AND
MACHINERY CORPORATION**

HARRISON, NEW JERSEY



Southern Pacific No. 4272 . . . Built by Baldwin Locomotive Works in 1943



New York Central No. 3064 . . . Built by American Locomotive Company in 1942



Missouri Pacific No. 2208 . . . Built by Baldwin Locomotive Works in 1943



Norfolk and Western No. 1212 . . . Built by Norfolk and Western Roanoke Shops in 1943



Duluth, Missabe and Iron Range No. 231 . . . Built by Baldwin Locomotive Works in 1943



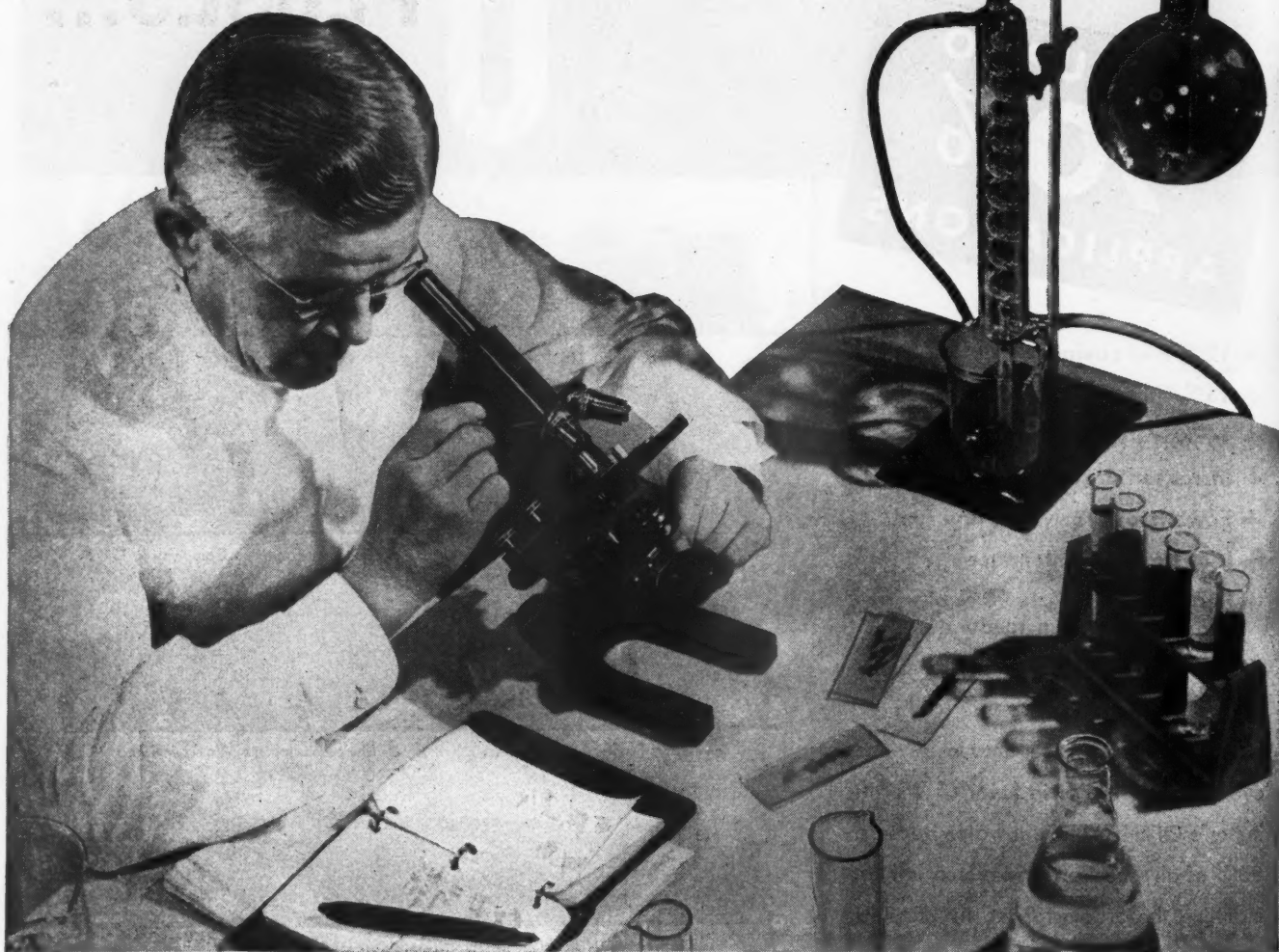
Clinchfield No. 655 . . . Built by American Locomotive Company in 1943

LH3-4

YOUR MONEY'S
WORTH
WORTHINGTON



WARTIME CRYSTAL GAZING...



with an eye to your post-war trains!

Today, the Johns-Manville research laboratories are largely devoted to war. Here, in the best-equipped product laboratory of its kind, J-M technicians are busy improving present products and developing new ones to speed our victory. And yet they have not forgotten you.

Through 85 years of keeping pace with railroad progress J-M has developed a deep-seated interest in railroad problems. As J-M research engineers have worked on

new and improved products for the war, they have kept an eye on your post-war needs.

Many of these wartime developments will be of interest in connection with your post-war operations. While details cannot be revealed as yet, you can be assured that new and improved materials for locomotives, passenger cars, stations and other buildings will be ready to contribute to the efficiency and comfort of your service in the post-war years.



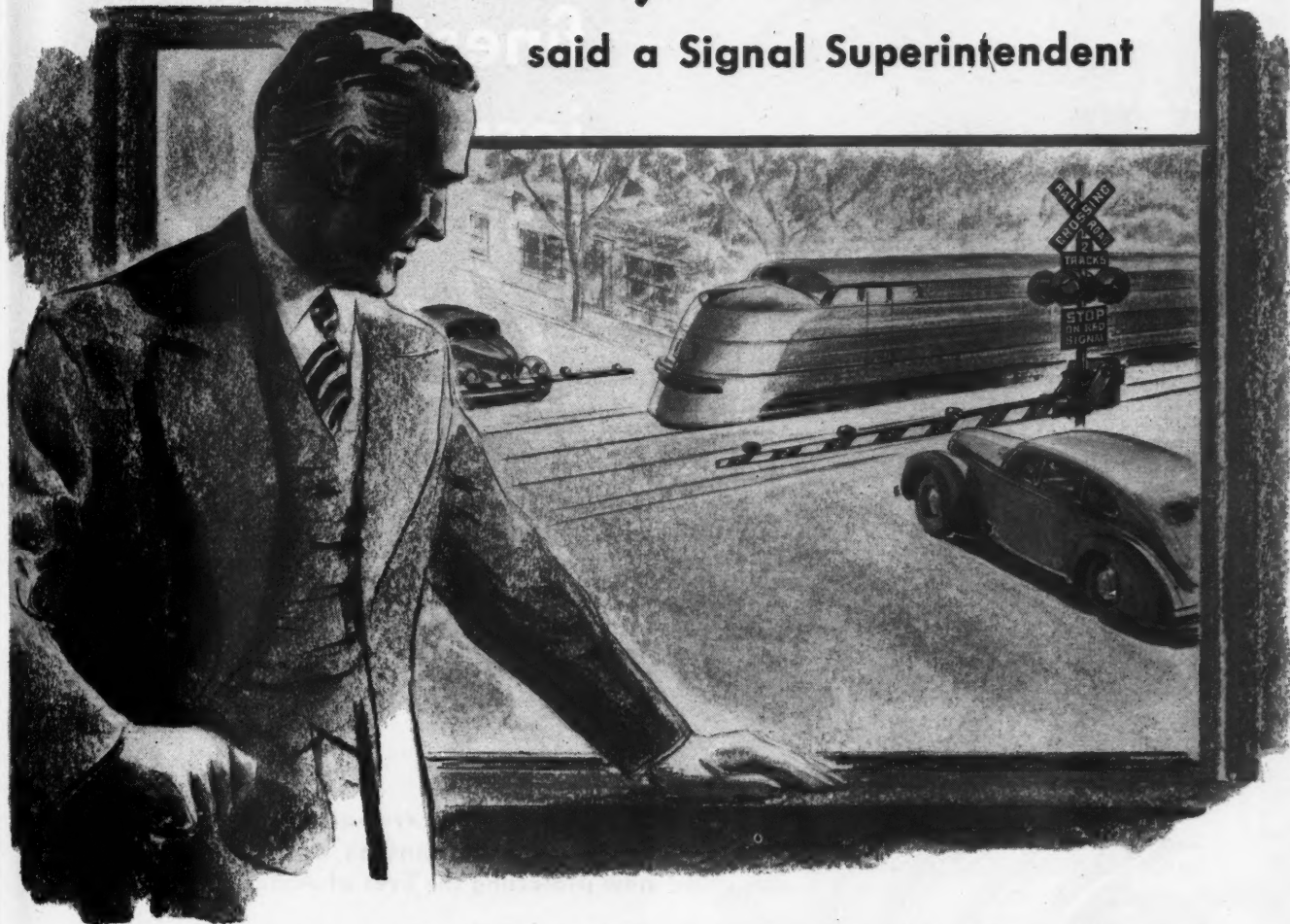
JOHNS-MANVILLE

85 YEARS OF SERVICE TO TRANSPORTATION

Insulations • Packings • Friction Materials • Refractory Cements • Building Materials

"Always Remember"

said a Signal Superintendent



Model 10 Highway Crossing Signals have been in service for over 7 years. Over 1500 have been installed. There has never been a fatality at crossings protected by Model 10.

U. S. Patent No. 2,137,196—
Patented in Canada June 27, 1939



- That Model 10 Signals always protect. Even in case of total power failure the Model 10 displays its most restrictive indication with the arm across the approach highway lanes and reflector buttons on the arm make it conspicuous as a barrier even in darkness.

- That Model 10 Signals are automatic in operation and provide 24 hour protection in any weather.

- That Model 10 Signals protect against the second train.

- That Model 10 Signals are built by manufacturers experienced in the art of railroad signaling.

BUY MORE WAR BONDS

WESTERN RAILROAD SUPPLY COMPANY

2360 SOUTH ASHLAND AVENUE

CHICAGO, ILLINOIS

November 20, 1943

57



It's the
finest
insulation
you
Can't Get!

The same water-repellent fibre that makes DRY-ZERO outstanding as railroad insulation is now protecting the lives of America's fighting men!

**DRY-ZERO SHEDS
WATER LIKE A DUCK**

DRY-ZERO Insulation repels moisture—it can't absorb it nor draw it up by capillary action. It is 7 times lighter than commercial corkboard and has a low thermal conductivity of only 24 BTU's. It doesn't rot, pack or absorb odors.



Although DRY-ZERO isn't available for the duration (Uncle Sam needs its Ceiba fibre for lifesaving equipment and aircraft) hundreds of refrigerator cars today are doing a better job of transporting perishables because they're lined with DRY-ZERO insulation as are hundreds of lightweight passenger cars built in recent years!

If you're fortunate enough to have DRY-ZERO in your cars, you can re-use it again when rebuilding or repairing equipment, because DRY-ZERO retains its insulation efficiency through long years of service. And when Peace comes and Ceiba fibre is again available, DRY-ZERO Insulation will be back to serve you as it has in the past.

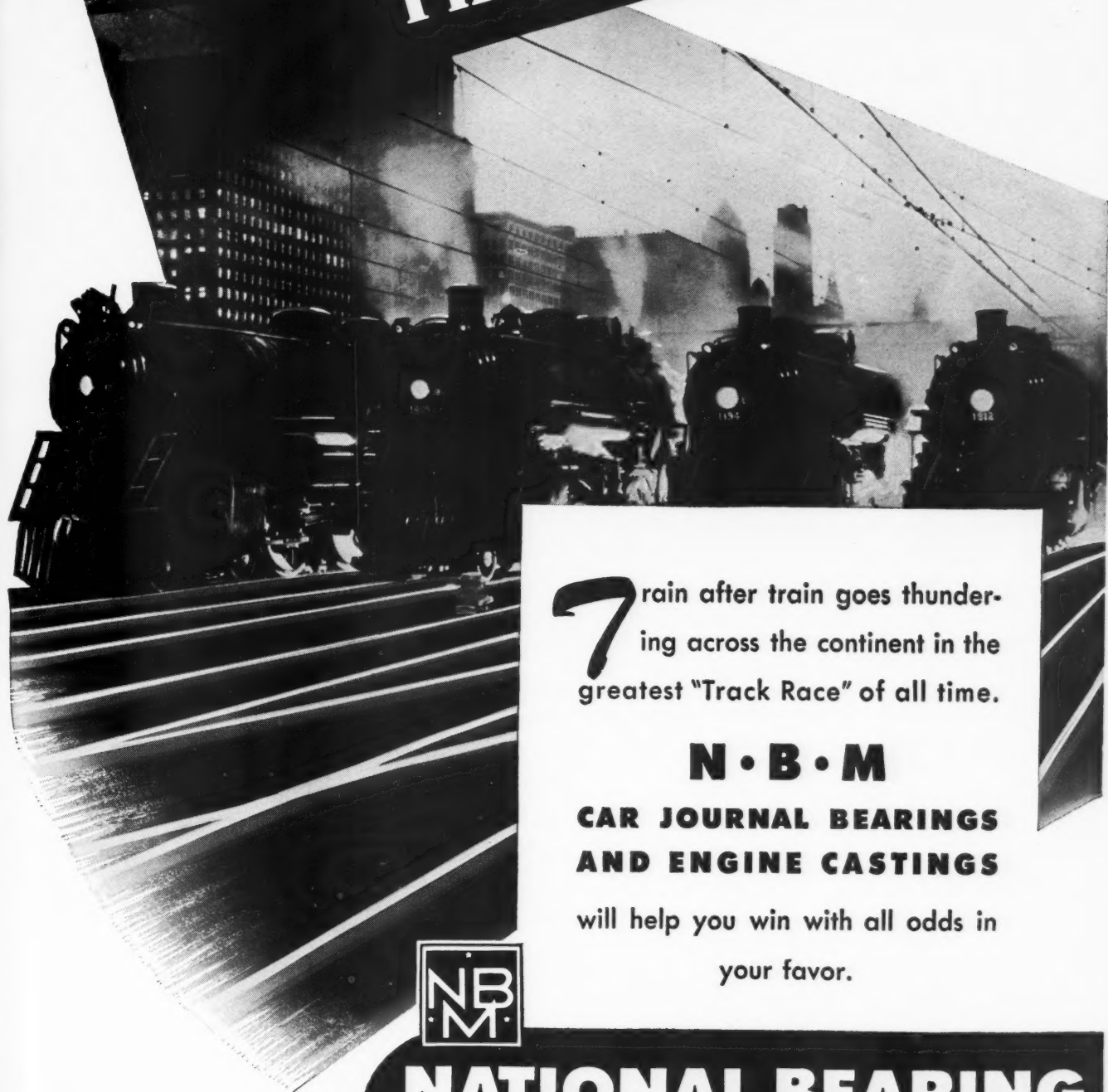
DRY-ZERO CORPORATION

Railroad Division

Merchandise Mart, Chicago

DRY-ZERO Railroad Blanket **INSULATION**

THEY'RE OFF!



7rain after train goes thunder-
ing across the continent in the
greatest "Track Race" of all time.

N • B • M

**CAR JOURNAL BEARINGS
AND ENGINE CASTINGS**

will help you win with all odds in
your favor.



**NATIONAL BEARING
METALS CORPORATION**

ST. LOUIS • NEW YORK



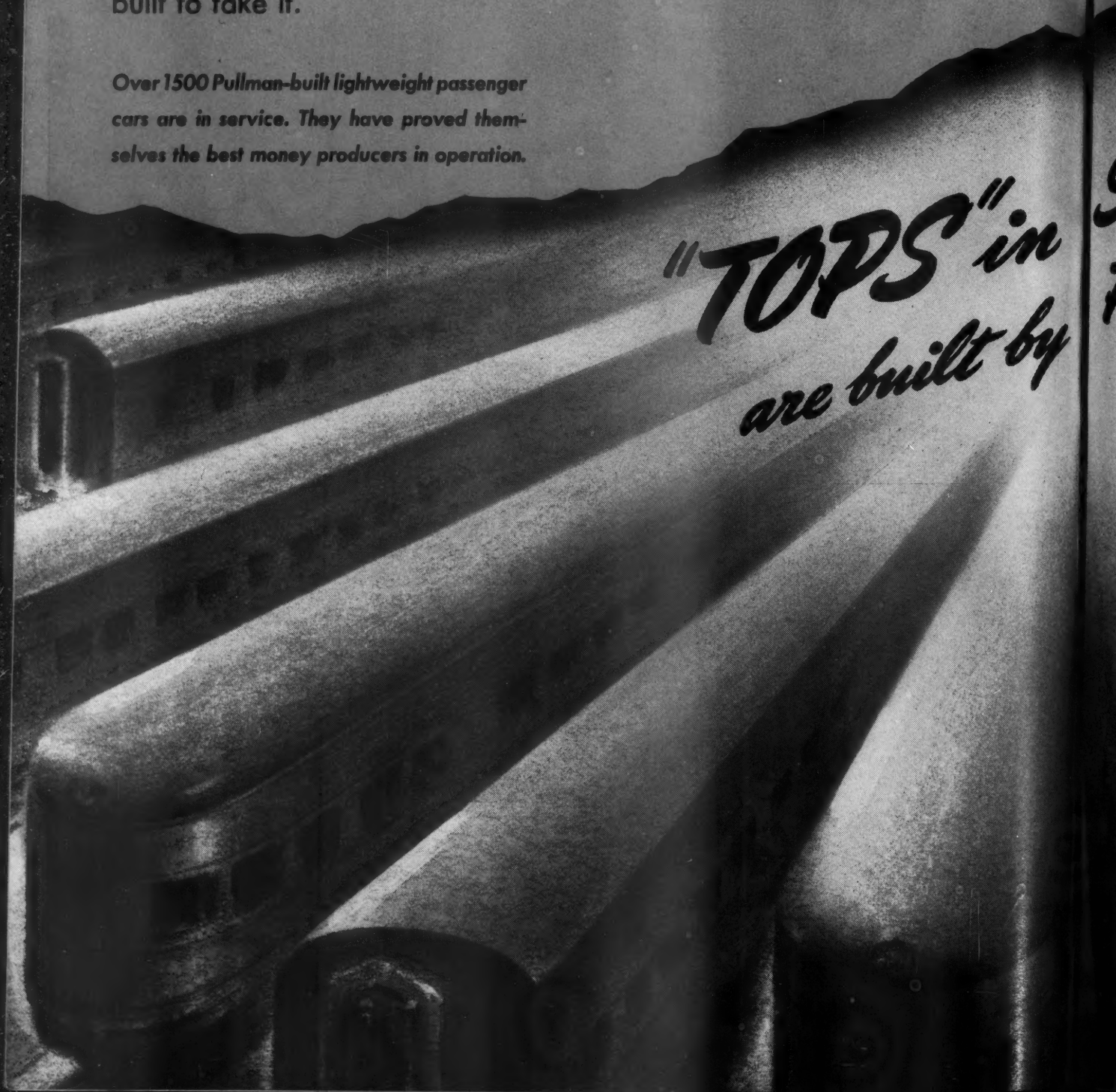
Pullman-Standard

believes it is just as important to choose the right material as it is to engineer the design correctly. When an error is made in either, the customer pays a serious penalty; if errors are made in both, the customer suffers a disaster.

No Pullman-Standard-built car has failed to pass the A.A.R. tests or to meet the rigid requirements of service — our cars are built to take it.

Over 1500 Pullman-built lightweight passenger cars are in service. They have proved themselves the best money producers in operation.

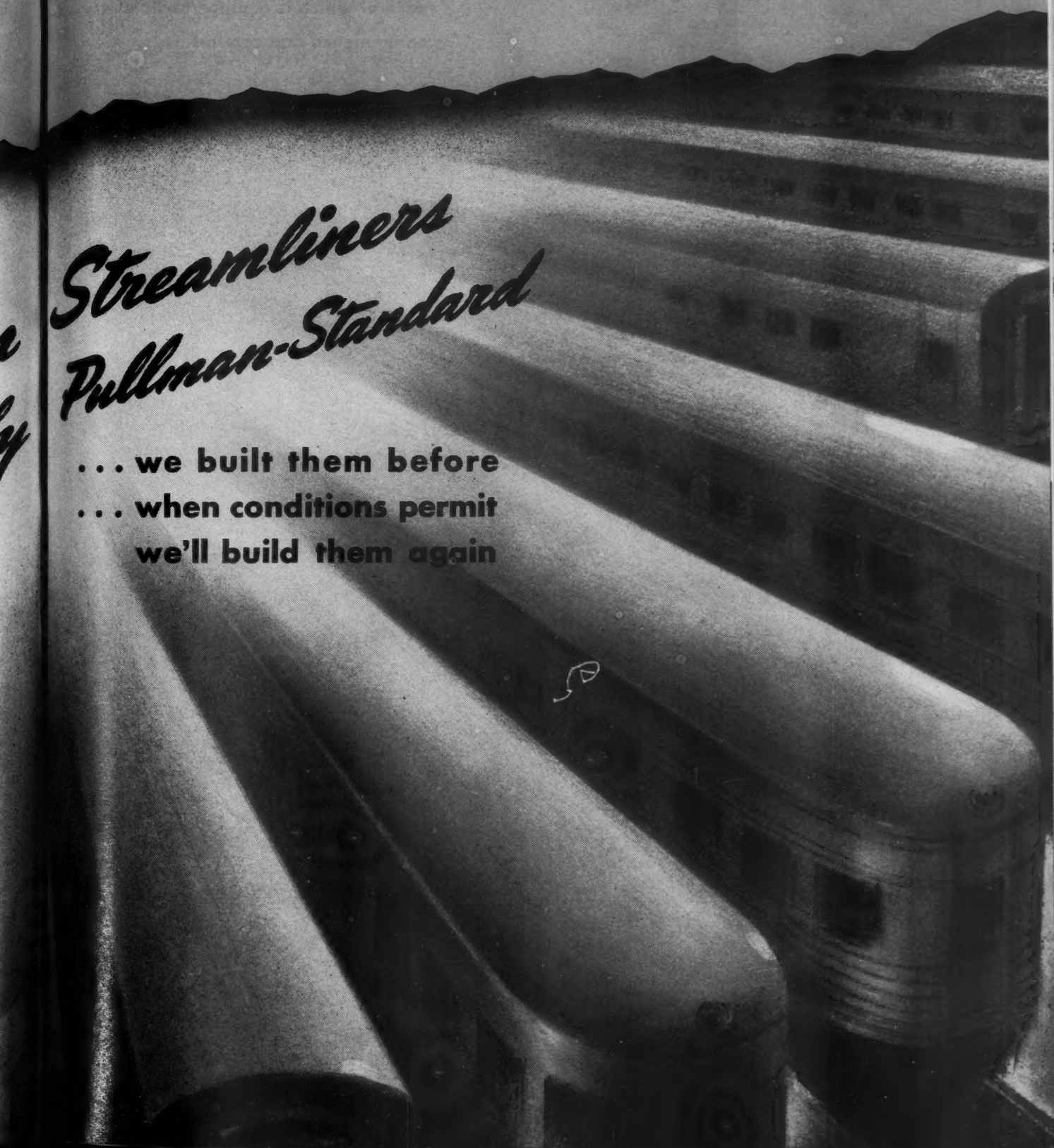
*"TOPS" in
are built by*



Pullman-Standard believes experience
is the best teacher . . . our research and design work are
founded on sound principles used by the Engineering profession
and supplemented by our 84 years of building the safest railroad
equipment in the world.

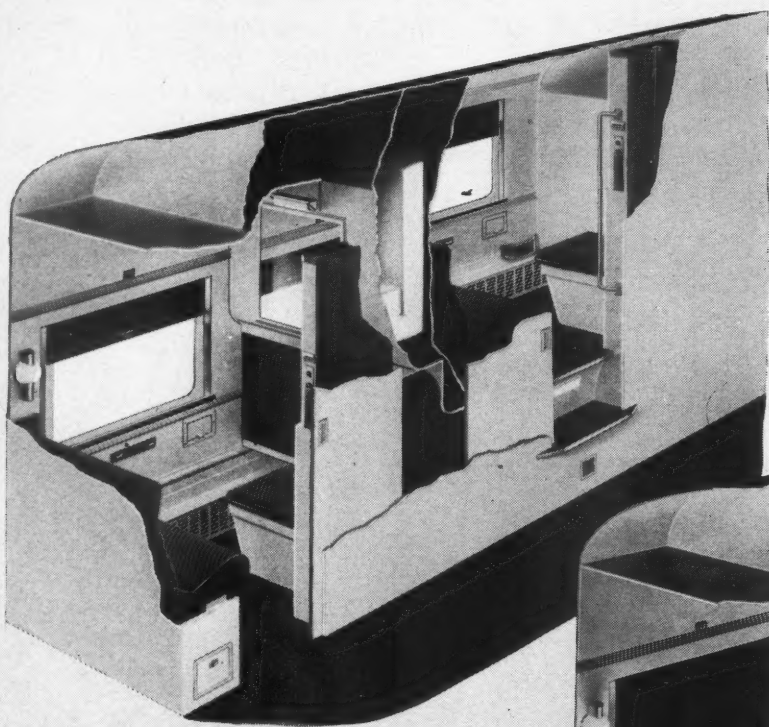
Streamliners
Pullman-Standard

. . . we built them before
. . . when conditions permit
we'll build them again



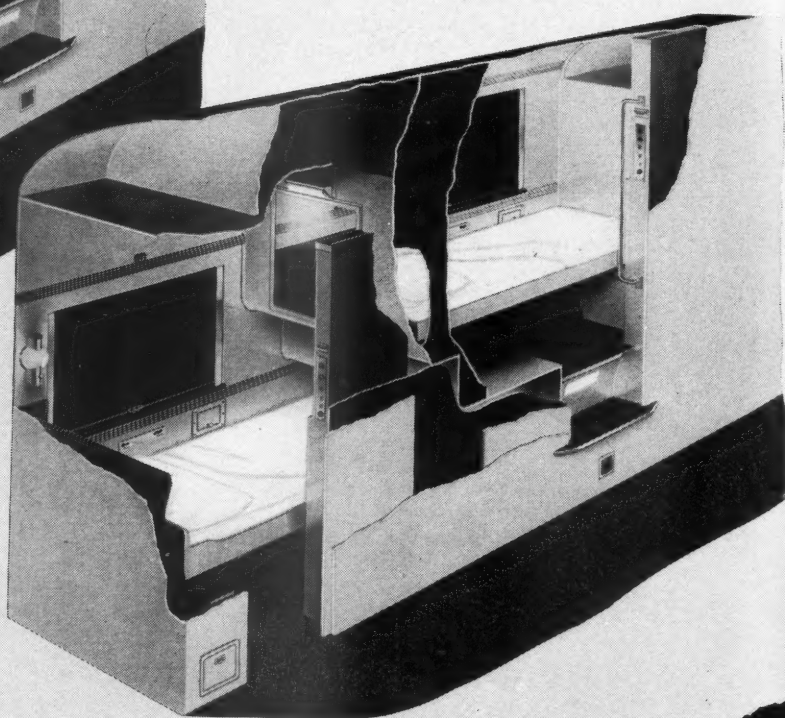
The Duplex Roomette Car

The Duplex Roomette Car . . . built by Pullman-Standard for the Pullman Company, insures greater travel comfort and privacy at the lowest possible cost. This car contains 24 rooms, each of which is equipped with every convenience and comfort.



Above: A Duplex-Roomette prepared for day occupancy.

Below: A Duplex-Roomette prepared for night occupancy.



The bed in the lower room slides under the floor of the upper room. The bed in the upper room folds into the wall.

The convenience and low price of the Roomette has made it one of the most popular of all Pullman accommodations.

PULLMAN-STANDARD CAR

CHICAGO • NEW YORK • CLEVELAND • WASHINGTON, D. C.

San Francisco Sales Representative

To satisfy this company's high standards of safety and quality of product, our engineers consider all the characteristics of the metals available and choose the best method of fabricating each. They consider not only tensile strength but compressive strength and other important factors . . . not only spot welding but arc welding and riveting. For safety is always the prime consideration. This company never has compromised with safety for the sake of novelty—and never will. Never has and never will experiment at the public risk and the railroads' expense.

With *equal safety* no modern passenger cars have been built at weights lower than those achieved by Pullman-Standard.

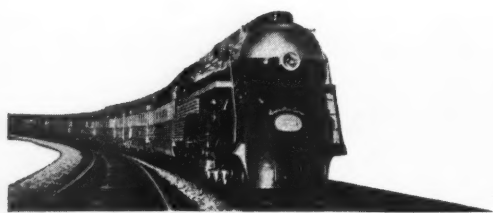
**Post-war construction will be
light-weight construction**

MANUFACTURING COMPANY

PITTSBURGH • BALTIMORE • BIRMINGHAM • WORCESTER, MASS.

Latham McMullin

In every department.....on every Branch



OLIVER ACCURACY

Saves....

TIME

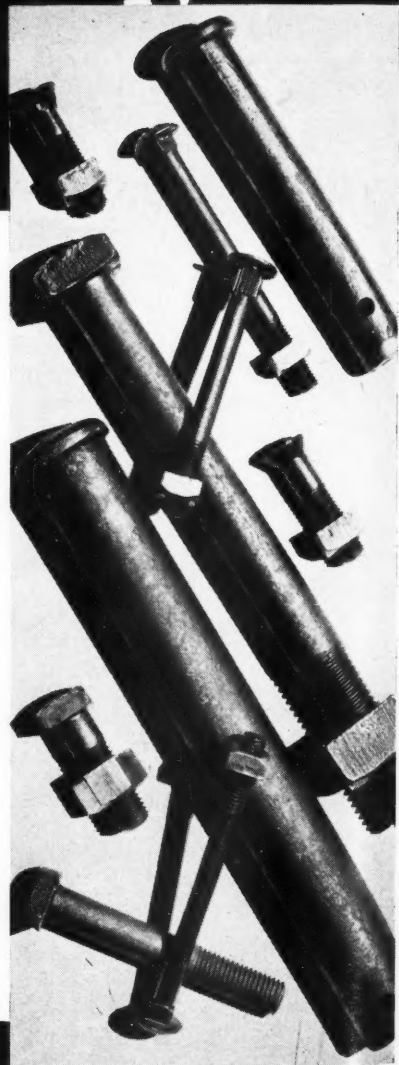
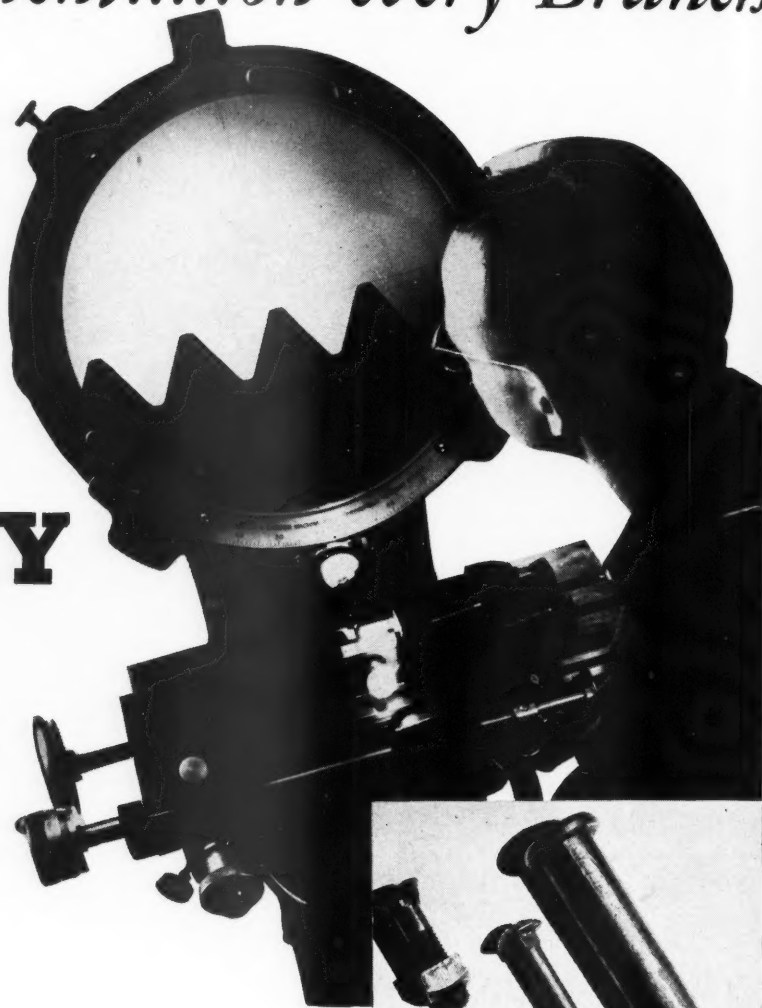
MONEY

MANPOWER

Because Oliver railroad fasteners are accurate in dimension, cleanly threaded and uniform, they assemble faster, hold tight, give complete satisfaction and long life. Your crews work faster, accomplish more, have less spoilage in both track and shop work.

Oliver specializes in railroad fasteners, making a complete line that includes car builders' specialties such as: watertight bolts, several types of running board bolts, collar rivet bolts, pins, etc. Oliver track fastenings include track bolts of many types, screw spikes, frog and crossing bolts, gage rods and other specialties.

In every department, on every branch — Oliver fasteners can help you save time, money, manpower!

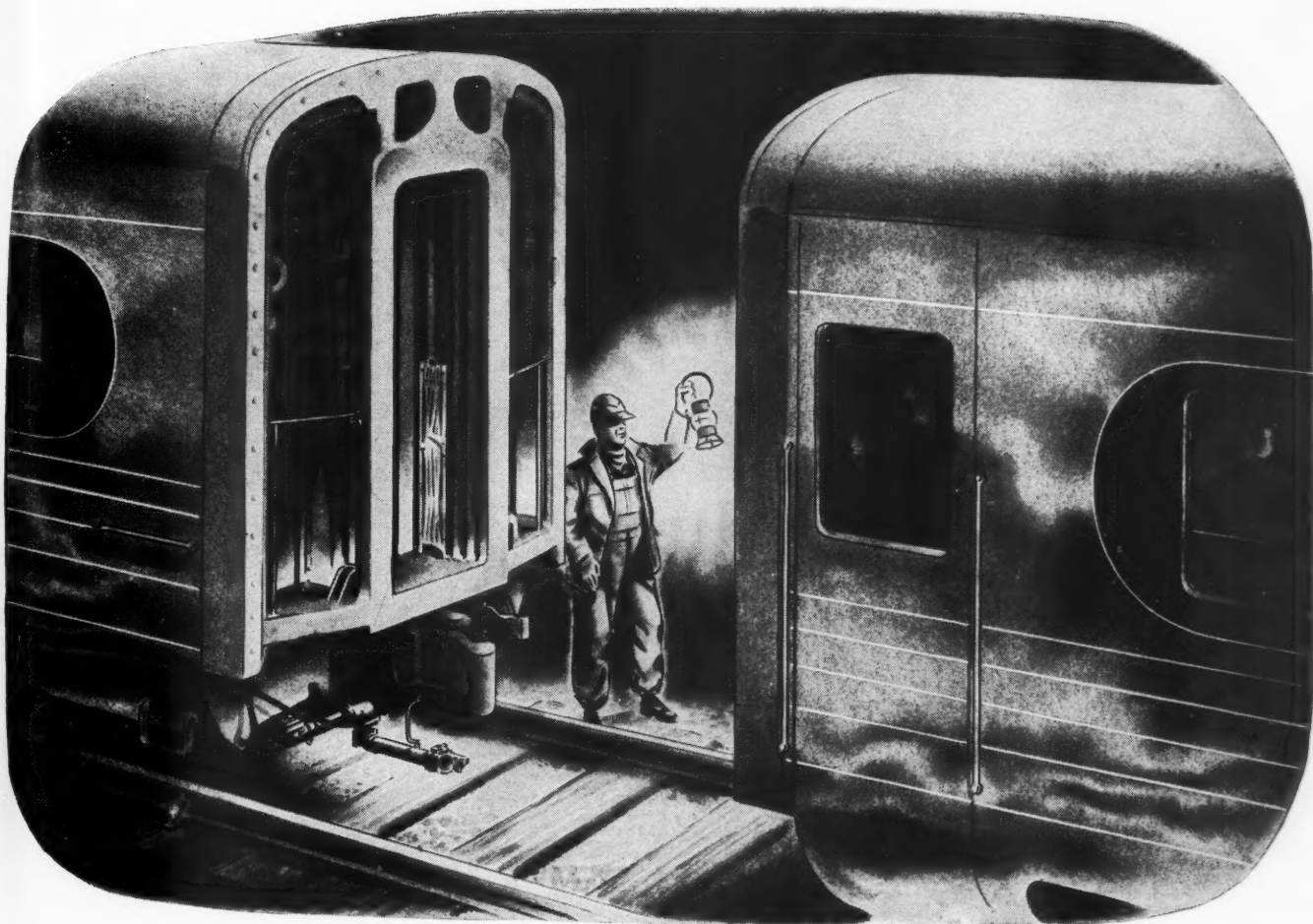


OLIVER
IRON AND STEEL

Corporation

SOUTH TENTH and MURIEL STS.

PITTSBURGH, PENNSYLVANIA



STEAM HEAT ON WHEELS

Today American railroads are carrying *more* traffic of every kind than *any* country at *any* time has transported since the world began. In addition to transporting vital war materials, American railroads . . . in seven months of 1943 . . . carried 47,500,000,000 revenue passenger miles on the home front!

Barco Steam Heat Connections are helping to keep maintenance and labor costs at

a minimum. They provide the least possible obstruction to the flow of steam and are noted for their extreme simplicity, small number of wearing parts and freedom from leakage.

We're proud of the great record that American railroads are building in this war . . . and we're also proud of our years of service to the railroad industry.

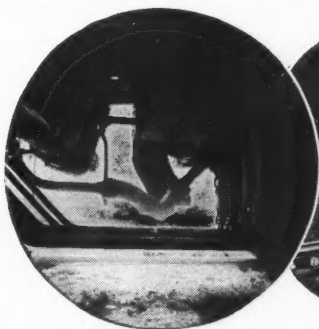
BARCO

MANUFACTURING COMPANY

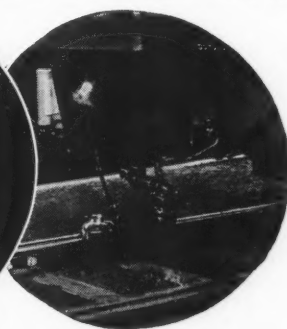
NOT INC.

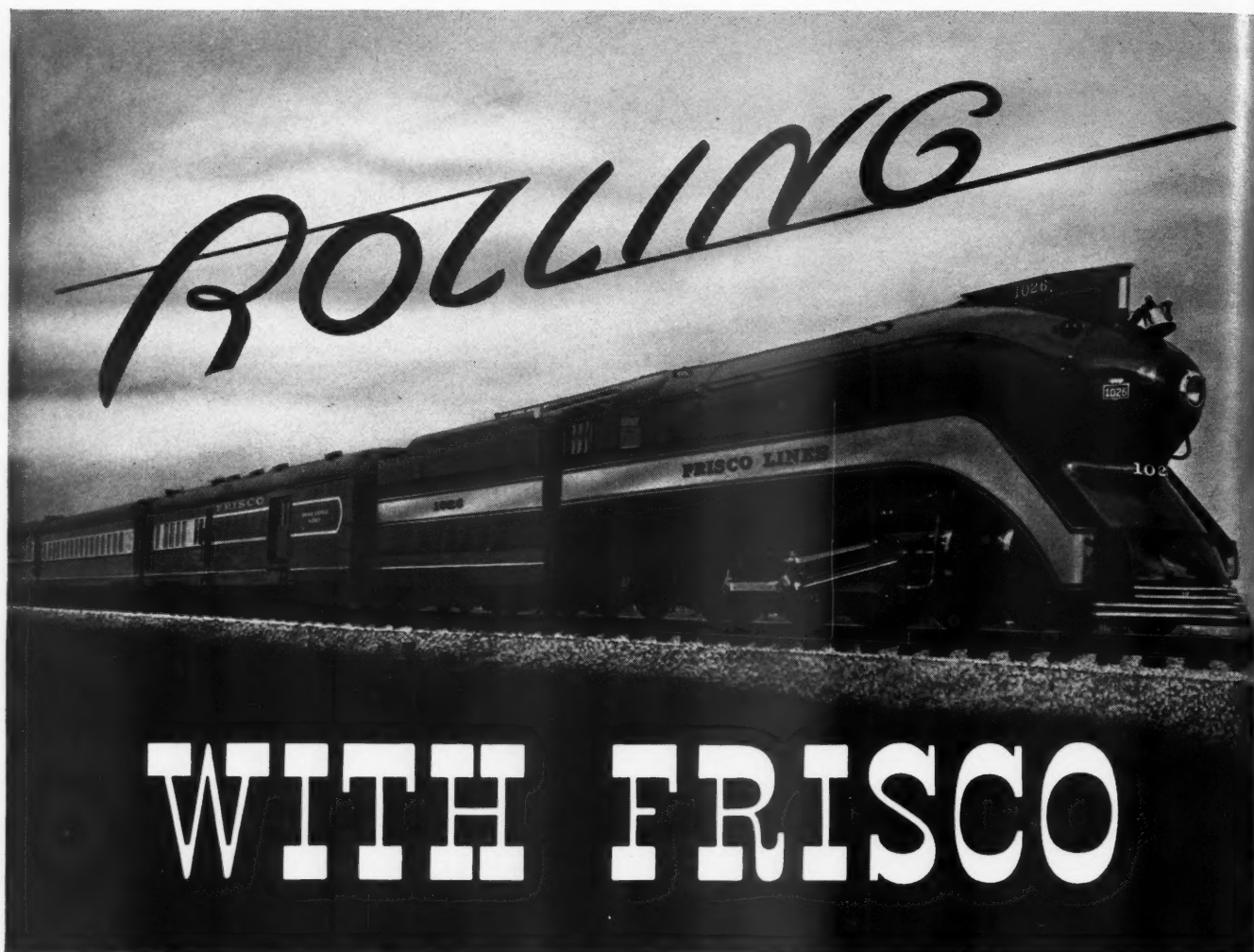
1800 Winnemac Avenue, Chicago, Illinois • In Canada—The Holden Co., Ltd.

Air, steam and oil connections between locomotive and tender.



Passenger car steam heat connections.





As a major outlet of the Mid-West industrial and agricultural empire, the St. Louis-San Francisco Railway normally has a tremendous job of railroading to do. With wartime freight and passenger traffic added, the job demands super-railroading — and gets it. Frisco keeps 'em rolling . . . *correct* lubrication assisting.

Frisco Lines use Sinclair Railroad Lubricants, among them Sinclair Driving Journal Compound which helps to keep Frisco's famous trains on schedule.

Sinclair Driving Journal Compound contains a high percentage of sturdy cylinder stock. It starts feeding at low temperature . . . feeds evenly. It assures a strong film for dependable lubrication of journals at slow or high speeds regardless of atmospheric temperature.

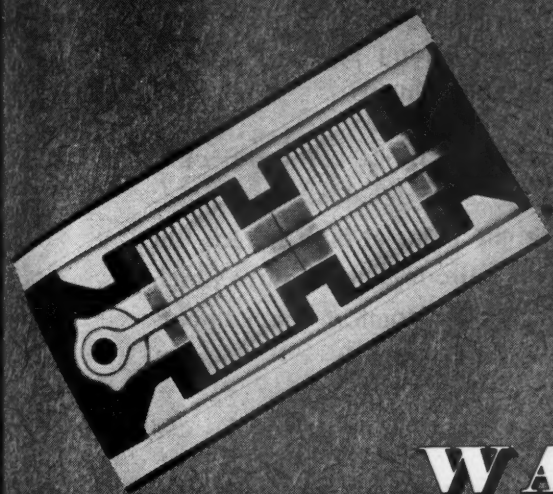
For driving journal lubrication that is *safe* and extremely economical get to know more about Sinclair Driving Journal Compound. Our engineering counsel is yours for the asking.

SINCLAIR RAILROAD LUBRICANTS

SINCLAIR REFINING COMPANY, (INC.), RAILWAY SALES, NEW YORK • CHICAGO • SAINT LOUIS • HOUSTON

**Tomorrow's Railroads
will seem to**

SOAR



Tomorrow, when rubber is again available, WAUGHMAT TWIN CUSHIONS will become available equipment wherever railroads run.

Cushioning impact or pull with equal facility, WAUGHMAT TWIN CUSHIONS provide shock proof connection between car structures and couplers eliminating noises, jerks, jolts and jars from railroad travel.

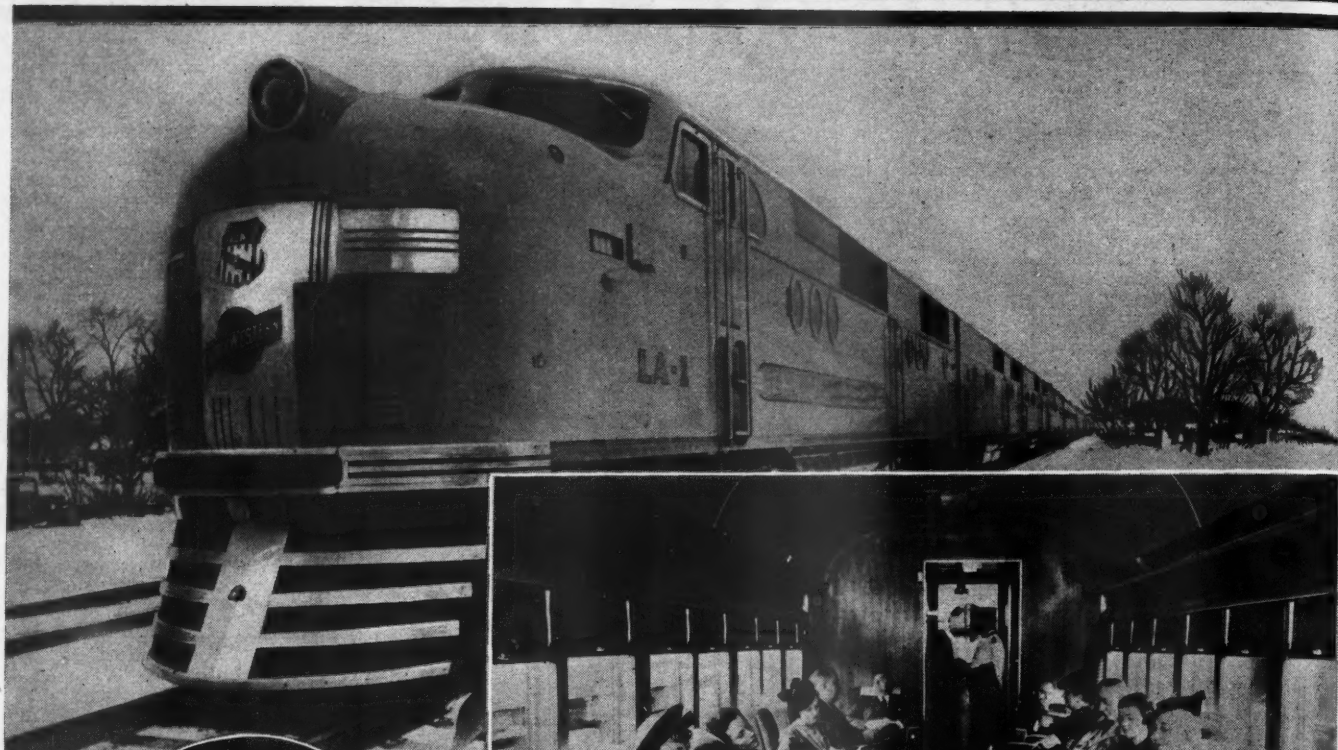
WAUGHMAT

Twin Cushions

WAUGH EQUIPMENT COMPANY

CANADIAN WAUGH EQUIPMENT CO. MONTREAL • CHICAGO NEW YORK ST. LOUIS

MAXIMUM PASSENGER COMFORT



BY analyzing the operating performance during the last few years it is evident that the railroads are determined to build a new era of passenger business after the war.

Maximum comfort during the trip is a very vital factor. High speeds demand rapid deceleration but, to insure maximum com-

fort demands a braking system, built to meet the new requirements.

The NEW YORK H.S.C. Brake not only provides for the rapid deceleration of modern light weight trains at high speeds but also insures the uniform, smooth stops which are essential to the comfort requirements of modern passenger service.

The New York Air Brake Company

420 Lexington Ave., New York City.

Plant: Watertown, New York

FIRE

FLAMEFOIL FINISHED CANVAS Could Have Checked It!

Write to canvas dealer nearest you for names of manufacturers making the Flamefoil Finished canvas products you need.



A cigarette butt . . . a lighted match . . . a cinder landing on ordinary canvas . . . and, flash!, fire starts. But not with Flamefoil Finished canvas! ★ Flamefoil Finish, a triumph of modern chemistry, offers 4-point protection against canvas destruction: • Makes canvas flame-proof • Makes canvas waterproof • Resists ravages of mildew, mold, and other bacteria causing canvas rot • Increases canvas tensile strength. ★ Before investing money in canvas . . . be sure it carries the 4-point protection of Flamefoil. Flamefoil is inexpensive . . . costs only a few cents per yard to apply. It's your insurance!

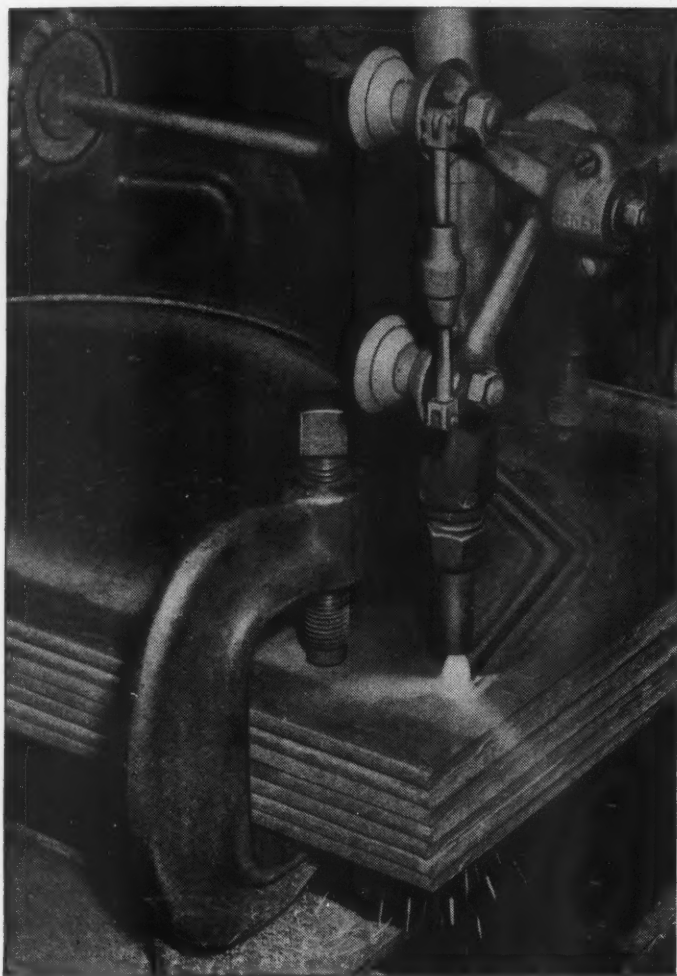
Manufactured by PHILADELPHIA TEXTILE FINISHERS CO., Inc.

WILLIAM L. BARRELL COMPANY, INC.

SELLING AGENTS

40 WORTH STREET, NEW YORK, N. Y.

To get the Most out of *take full advantage of*



Cutting Piled Plate—When quantities of car and locomotive parts are produced simultaneously by oxy-acetylene cutting of piled plate, every part cut is identical and is flat and true. Cut edges are clean and smooth, in most cases require no machining. Since parts are uniform in size and shape, and edges are cut true, time required for forming or assembly operations is reduced.



Oxy-Acetylene Flame-Hardening—This recommended method gives steel and cast iron parts a wear-resistant surface hardness without affecting the toughness of the core. The weld metal of Oxweld M-W Steel Rod, and No. 9 Cast Iron Rod, respond well to this treatment, so parts already worn can be rebuilt with these rods and then flame-hardened to retard future wear.

SINCE 1912—THE COMPLETE OXY-ACETYLENE SERVICE FOR

**BUY UNITED STATES WAR
BONDS AND STAMPS**

of Your Present Equipment

of OXWELD RAILROAD SERVICE



Oxy-Acetylene Flame-Cleaning—This procedure, followed by wire-brushing, removes loose scale, rust, and moisture from steel preparatory to painting. A tight bond is assured by the warm, dry, flame-cleaned surface.

Welded-On Cylinder Back Heads —

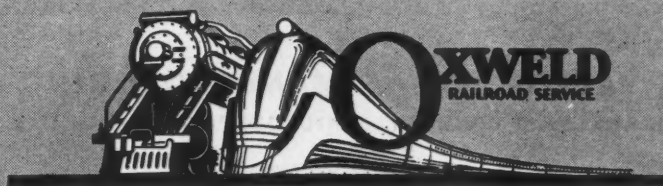
This recommended Oxweld method reduces repairs because head and cylinder are made a jointless unit. Leakage is eliminated, vision-hampering steam emissions are stopped, and frequent grinding of head seats and renewal of nuts and studs are avoided.

THE OXWELD RAILROAD SERVICE COMPANY

Unit of Union Carbide and Carbon Corporation



Carbide and Carbon Building Chicago and New York



AMERICAN RAILROADS

The word "Oxweld" is a trade-mark.



YALE HELPS RAILROADS KEEP 'EM MOVING . . .

When a piece of rolling stock has to be run into the shop these days, no time can be wasted getting the equipment back onto the line. Efficient materials handling is a factor that should never be overlooked when speed and conservation of manpower are important.

Be it in the car shop, round house, stores department or freight platform, wherever there are things to be hoisted, shifted or transported, there are one or more pieces of Yale equipment to cut the time and cost of materials handling.

"Things" may be anything from a set of flanges to a wheel assembly . . . anything from a pile of bulky cartons on the freight platform to the miscellaneous items of hustle and bustle at the Diner commissary.

A telephone call or request on your letterhead will bring complete information . . . or a qualified Engineer if you desire.

THE YALE & TOWNE MANUFACTURING CO.
PHILADELPHIA DIVISION • PHILADELPHIA 24, PA., U. S. A.

*Makers of Materials Handling Machinery,
Hand Lift and Electric Industrial Trucks—Hand Chain and Electric Hoists*



Railway Representatives:

New York, N. Y.—W. E. Bugbee,
Eastern Railway Supplies, Inc.
110 East 42nd Street
Scott Donahue—Graybar Bldg.
420 Lexington Ave.

Chicago, Ill.—The Earl E. Thulin Co.
Suite 339, Hotel Sherman

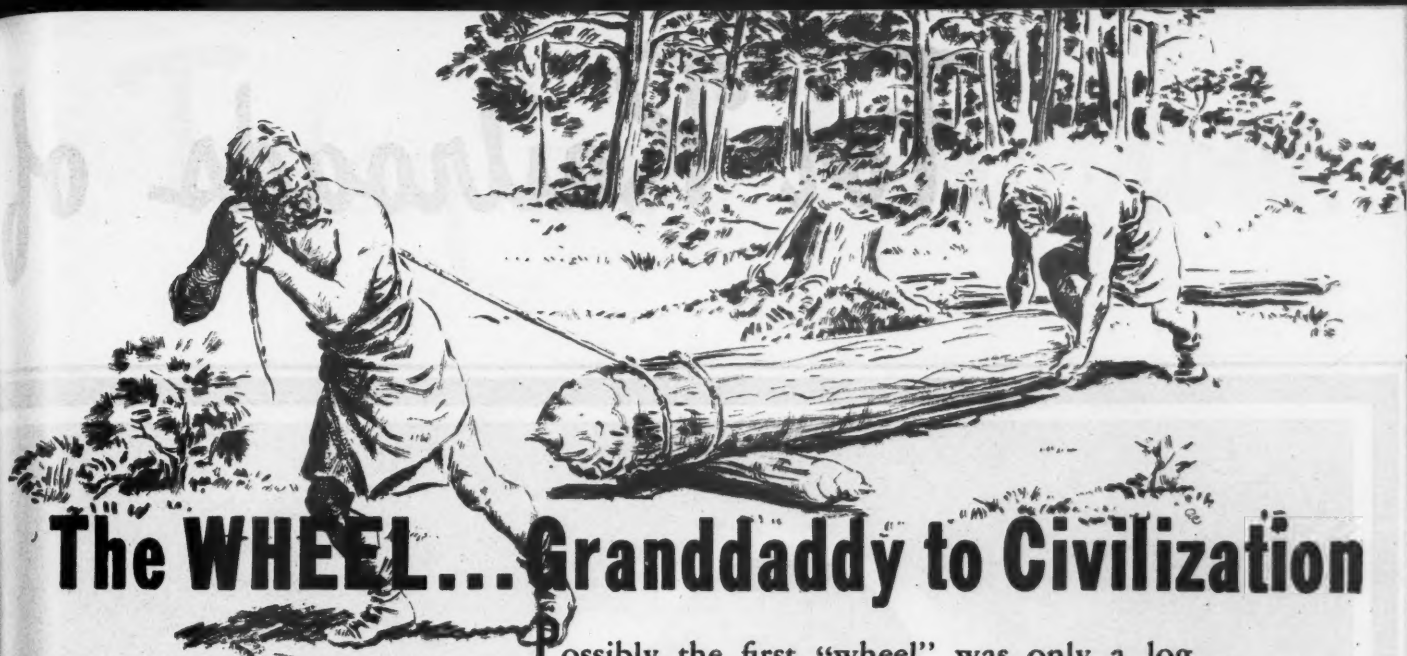
Washington, D. C.—Ralph W. Payne
Metropolitan Bank Bldg.

Cleveland, Ohio—C. E. Murphy
925 Midland Bldg.

St. Paul, Minn.—Robert J. Wylie
607 Pioneer Bldg.

San Francisco, Calif.—Carl E. Lang
1219 Folsom St.

St. Louis, Mo.—Clarence Gush
2232 Olive St.



The WHEEL... Granddaddy to Civilization

Possibly the first "wheel" was only a log which some pre-historic man accidentally set to rolling, which in turn set the man to thinking. But, whatever its origin, it surely started man on his way, made possible much of the progress he has since enjoyed.

Here at Union Steel our preoccupation with the wheel has produced the unique Web-Spoke Driving Wheel Center. With it the modern locomotive is better able to meet today's demand for faster, heavier railroad traffic.



UNION STEEL CASTINGS

DIVISION OF
BLAW-KNOX
PITTSBURGH, PA.



The Frisco engine above is equipped with Union's Web-Spoke Driving Center, as are many other famous locomotives.

UNION WEB-SPOKE DRIVING WHEEL CENTER

Best illustration of a wheel for fast, heavy and intensive service, with quality features for greatest balance, from these important features:

- 1 Castless section spokes for great structural strength.
- 2 Reinforced rim, expert to eliminate flat spots, out-of-roundness, etc.
- 3 Correct distribution of metal for better balancing of small-diameter wheels.
- 4 Wheels easily inspected, balanced and after installation.
- 5 Trouble-free in service, due to simplicity in design.
- 6 Can be made to any standard specification.

We will be pleased to show you the specific application of this wheel design to any of your power if you will drop us a line—you incur no obligation by so doing.

BACK THE ATTACK — BUY U. S. WAR BONDS

For Railroads of



G.E.

WRITE US FOR RECOMMENDATIONS ON SPECIFIC

Today and Tomorrow...



SPRINGS

... Smooth Riding ...

... Longer Life ...

... Lower Maintenance ...

with dependable springs of **VANADIUM STEEL**



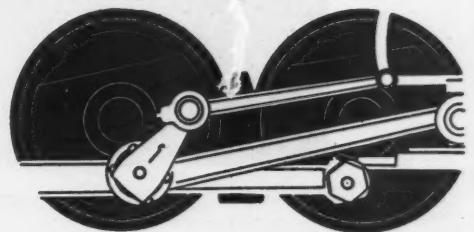
CASTINGS

... Increased Strength ...

... Reduced Dead Weights ...

... Increased Payloads ...

with castings of **VANADIUM STEEL**



FORGINGS

... Higher Strength ...

... Reduced Sections ...

... Lower Dynamic Augment ...

with forgings of **VANADIUM STEEL**

VANADIUM

CORPORATION OF AMERICA

420 LEXINGTON AVE., NEW YORK 17, N. Y.

CHICAGO

PITTSBURGH

DETROIT

CITY APPLICATIONS

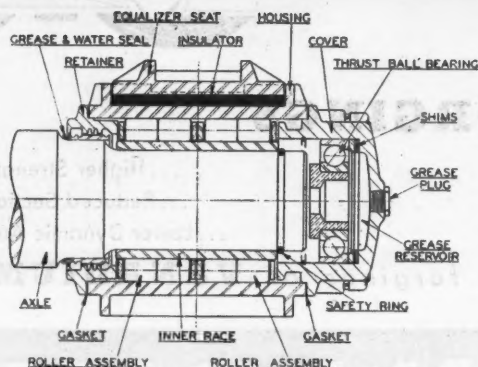
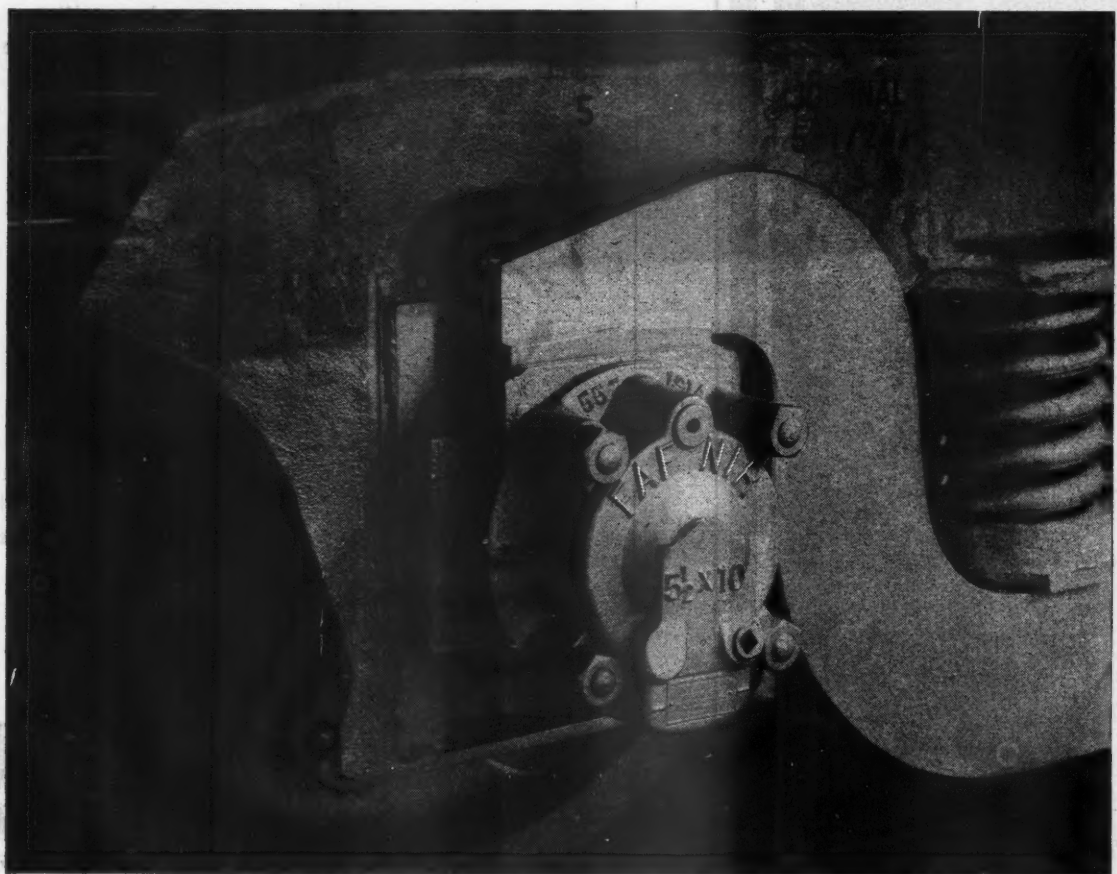
" $\frac{1}{2}$ lb. of grease every 60 days!"

You have just read the entire maintenance procedure for a *grease lubricated* Fafnir Ball & Roller Journal Bearing.

Experience of roads using these *grease lubricated* bearings for more than four years indicates that grease "stays put"; leakage is eliminated; dirt is effectively sealed out; maintenance is cut to the bone.

Grease has "stood up" entirely satisfactorily under both summer heat and winter temperature.

Fafnir Ball & Roller Journal Boxes are available for either grease or oil lubrication. For low cost maintenance we recommend *grease lubrication*. The Fafnir Bearing Company, New Britain, Connecticut.



FAFNIRS OFFER:

High Capacity – hardened solid steel rolls carry the load, ball bearing takes the end thrust.

Positive Lubrication at all speeds; cool running.

Easy Application – alloy housing interchangeable with plain sleeve type in standard pedestal openings.

FAFNIR BALL & ROLLER JOURNAL BEARINGS
REDUCE STARTING LOADS UP TO 90% • • • CUT MAINTENANCE TWO-THIRDS

Naturally, We are Ready with Synthetic Rubber V-Belts

It is quite natural that Dayton Rubber, as the world's largest maker of V-Belts and the builders of the first American all-synthetic rubber automobile tires, should have spent the past nine years in the continuous development, processing and application of synthetic rubbers of all types. As a result of our investment of thousands of priceless technical man-hours, we

have built up a tremendous backlog of knowledge and experience.

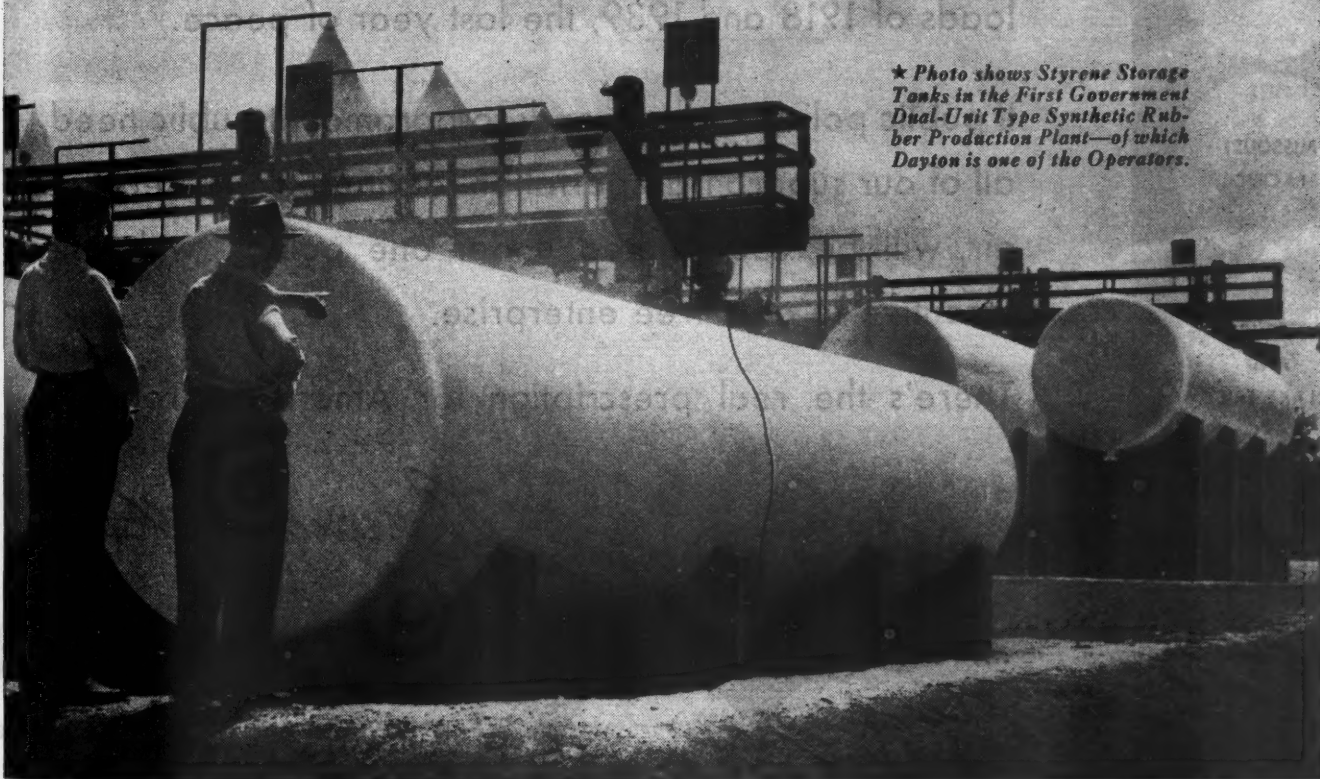
Now that all V-Belts will soon be made of synthetic rubber, Dayton is glad that its vast fund of accumulated knowledge in synthetic rubbers is a reservoir upon which we can draw freely to better serve America's war-vital railroads.

THE DAYTON RUBBER MFG. CO.
DAYTON 1, OHIO

V-Belts by Dayton Rubber

FOR CAR LIGHTING, DIESEL LOCOMOTIVE and AIR CONDITIONING

★ Photo shows Styrene Storage Tanks in the First Government Dual-Unit Type Synthetic Rubber Production Plant—of which Dayton is one of the Operators.



PREVIEW

NEW YORK
CENTRAL

UNION
PACIFIC

NORTHWESTERN

INTERNATIONAL
CENTRAL
AMERICA

ATLANTIC
COAST LINE

MISSOURI
PACIFIC

PITTSBURGH
AND
LAKE ERIE

FLORIDA
EAST COAST



TEN YEARS before Kitty Hawk, "Old 999" pulled the Empire State Express at the highest speed man had ever moved...112½ miles an hour...fifty years ago.

Speed is a factor...but service to countless communities...to every factory, farm and human at every whistle stop in America was the job of the railroads...and they *DID* it.

In this year of this war, with one-third less equipment than in 1918 they have carried more than the combined loads of 1918 and 1939, the last year of peace.

If public policy now responds to paramount public need, all of our superb transportation facilities...land, sea and air, will be coordinated under one policy...with one incentive to all...free enterprise.

There's the real prescription for American progress.

Franklin D. Roosevelt

ROCK ISLAND

LACKAWANNA

SOUTHERN

WABASH

NORTHERN
PACIFIC

SANTA FE

CONSOLIDATED
OF
CUBA

of PROGRESS

LOCKHEED

BOEING

BUDD

VEGA

TEN YEARS of design and research, manufacture and acceptance of seating for Railroads, Steamships, Hotels, Airplanes and dozens of other uses before 1939 made possible the design and production of more than 100 models of military aircraft seats, now used on every fighting front, in World War II.

Out of this experience, when the war is finally won, will come from Warren McArthur, better passenger seats for all modes of transportation . . the Railroad . . the Steamship and the Airplane.

Lighter weight . . increased pay load . . low cost of maintenance for the operator . . greater mental and physical comfort for the customer. Customer comfort will be the drawing card for volume travel . . by rail, air or water.

NORTH
AMERICAN

BELL

VOUGHT-
SIKORSKY

NORTHROP

GOODYEAR

WARREN McARTHUR CORPORATION

ONE PARK AVENUE

NEW YORK CITY

DESIGNERS, ENGINEERS AND MANUFACTURERS . . SEATS FOR TRANSPORTATION

DOUGLAS

MARTIN

CURTISS-
WRIGHT

CONSOLIDATED
VULTEE

FAIRCHILD

CHRYSLER

BREWSTER

Complete COMBUSTION

A PROPER system of stoker firing must provide for sizing of the coal, conditioning of same, direction of delivery, separation of fine from coarse coal and scientific distribution.

When rightfully accomplished these five primary functions assure complete combustion, sustained boiler horse-power and economical fuel consumption. The design of the HANNA STOKER provides for all these essentials.

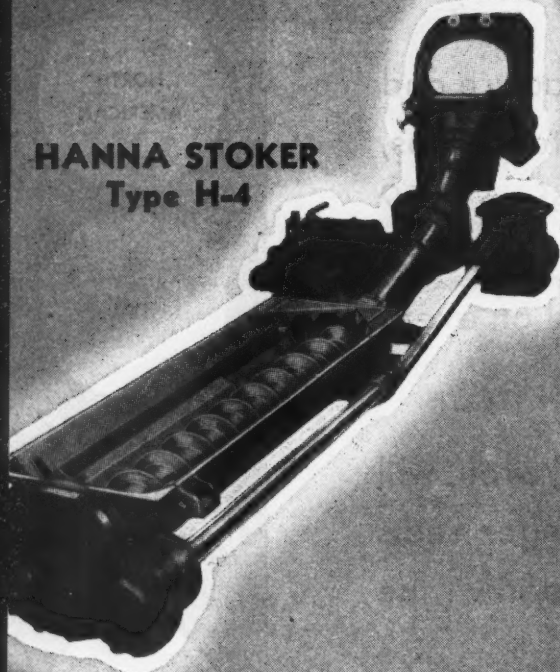
Supervisors of locomotive operation frequently comment upon the light stacks of HANNA fired locomotives—that is their way of gauging firing efficiency—and all firemen are amazed at the simplicity of controls and precision of distribution.

HANNA STOKERS are dependable and economical to maintain. You do not have to worry about road failures or expensive tie-ups for repairs.

THE HANNA STOKER COMPANY
CINCINNATI OHIO

HANNA STOKER

HANNA STOKER
Type H-4



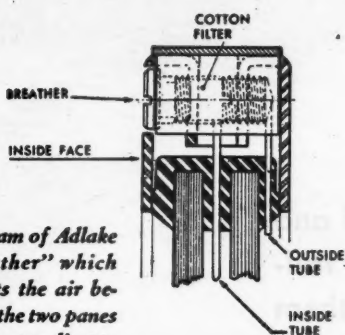
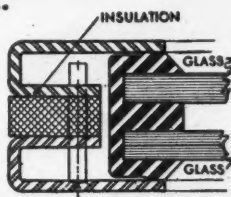


*Ease Two Pains
with
These Two Panes!*

Adlake
Double-Glazed
Sash Units

**Adlake—the only hermetically sealed
double-glazed windows which require
NO maintenance...**

*Both frames of
the Adlake sash
are insulated
from each other.
This prevents
cold from traveling to the inside face of the
unit—eliminates frosting.*



*Diagram of Adlake
"breather" which
permits the air be-
tween the two panes
of glass to adjust to
quick changes in temperature and altitude.
Note the inside and outside breather tubes.*

When windows become clouded or frosted—so do the passengers. That's one pain.

When maintenance crews have to dismantle a window in order to defrost or decloud it—that's another pain—and yours.

Ease both pains with Adlake double-glazed sash units.

Clearness is assured by the Adlake "breather" which permits the air between two panes of hermetically sealed glass to adjust itself quickly to rapid changes in temperature and altitude.

There is no dehydrating compound to become saturated—hence none to replace. Adlake windows require no maintenance whatever except routine washing and the replacement of panes that may be broken in service.

You can have the benefits of Adlake windows for new or reconditioned cars now.

Steel frames, anti-rust treated and painted, provide all of the time tested and proved principles of construction which have made Adlake the most successful windows in the passenger car field. Request details and prices.



THE ADAMS & WESTLAKE COMPANY

ESTABLISHED IN 1857

ELKHART, INDIANA

NEW YORK · CHICAGO

MANUFACTURERS OF ADLAKE SPECIALTIES AND EQUIPMENT FOR RAILWAY, AIRWAY, HIGHWAY, AND WATERWAY

**We are working for
UNCLE SAM**



**but
we are
not neglecting
the RAILROADS'
immediate or postwar requirements**

SAFETY generators and regulators are designed and built to stand up under the gruelling demands of railroad service. This is one of the reasons that make them ideal equipment for a Victorious Army and Navy.

SAFETY COMPANY equipment can take it on any front



THE SAFETY CAR HEATING and LIGHTING COMPANY, INC.
NEW YORK - CHICAGO - SAN FRANCISCO - PHILADELPHIA - BOSTON - ST. LOUIS - MONTREAL



Low-Alloy Steel Railroad Equipment Improves Mining Operations



Strong, lightweight railroad equipment made of chromium-copper steel has proved a big asset to the coal-mining industry. It lasts longer, increases hauling capacity, and reduces operating costs.

The remarkable service record of low-alloy steel railroad equipment is due to the strength and resistance to corrosion of the steel. Tests indicate that the corrosion rate of the chromium-copper steel is only about one-fourth that of plain carbon steel. Obviously, replacement is markedly reduced, and repair time is cut to a minimum.

Mining cars of the low-alloy steel can carry more payload because the cars weigh less. The greater payload can be hauled without loss of train speed. Lightweight empties need less power to move them; hence operating costs are lower. And with less weight on

wheels and track systems, maintenance costs are reduced.

The advantages of using low-alloy steel in mining cars can be duplicated in other applications. Cross-country coal cars must also be strong and corrosion-resistant. Other industries have transportation problems similar to those of the mining industry that might be solved by use of chromium-copper steel.

For information on the selection or use of alloy steels, call on us. We do not make steel, but we produce the ferro-alloys needed in steelmaking. Our metallurgists have studied alloy steels in the laboratory and in the field for over 35 years. The knowledge gained from their experience is at your service.

BUY UNITED STATES WAR BONDS AND STAMPS

ELECTRO METALLURGICAL COMPANY

Unit of Union Carbide and Carbon Corporation

30 East 42nd Street



New York 17, N. Y.

In Canada: Electro Metallurgical Company of Canada, Limited, Welland, Ontario

Electromet
Trade Mark
Ferro-Alloys & Metals

IDEAS TRANSLATED INTO STEEL



To railroad men who are magnificently doing the biggest job they ever tackled, a train like this has special meaning. It's modern, streamlined, stainless steel, lightweight. In other words, it's a product of ideas. And today, with unending lines at the ticket windows and armies to move, you may be sure that ideas are measured by performance.

Start one of these trains and a conventional train together; it will be a mile and a half ahead by the time they are doing sixty. It can also stop more quickly than an ordinary train. The idea of lightweight means the ability to maintain faster schedules. It also means valuable savings in power and fuel, as well as reliability which has led to some remarkable records for continuous performance.

EDWARD G. BUDD MANUFACTURING COMPANY
DETROIT NEW YORK CHICAGO ST. LOUIS SEATTLE

Every stainless steel train ever built was built by Budd—designed by Budd engineers, constructed by Budd skilled workmen. The SHOTWELD* system of fabricating stainless steel is a Budd invention. Modern railway travel was revolutionized by Budd ideas translated into smooth-riding comfort, operating economy, and stainless steel construction which provides safety and uninterrupted service.

None of these trains can be built now. The steel is needed for war and the Budd plants, filled with men trained to ideas and steel, are working one hundred percent on Army and Navy orders. But ideas live. And skill is not forgotten. The gleaming stainless steel trains you have today are a brilliant promise for the future toward which you are now planning.

BREG. U. S. PAT. OFF.

PHILADELPHIA, PENNA.

LOS ANGELES

SAN FRANCISCO

The Budd logo features the word "Budd" in a bold, italicized, sans-serif typeface. A horizontal line with a fine, diagonal-hatched texture runs through the middle of the letters, creating a sense of motion or a stylized underline.

-KEEP THAT GUARD UP!



It is not all over but the shouting. * We can still—lose. * Ships are yet to be launched that will win the war. Planes are yet to be built that will win the war. Bonds are yet to be bought that will win the war. * Keep that guard UP, America! This fight isn't over, yet. And a referee's decision won't do. We've just got to win... by a knockout.

GENERAL MACHINERY CORPORATION

HAMILTON, OHIO

THE NILES TOOL WORKS CO.

THE HOOVEN, OWENS, RENTSCHLER CO.

GENERAL MACHINERY ORDNANCE CORPORATION

4 ways

to hold passenger business after the war

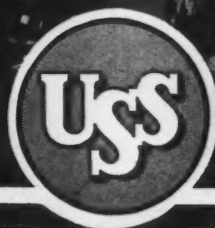
1 Replace outmoded, worn-out equipment with modern, more comfortable passenger cars.

2 Reduce passenger operating costs.

3 Provide faster, more frequent train service.

4 Emphasize the greater safety of travel by rail.

All four of these traffic-building features are possible with *lightweight* equipment that offers the public greater travel comfort and convenience—that is strong and safe—that can be operated at high speed—and that costs less to haul.



UNITED STATES STEEL

Plan now to build traffic



The younger generation finds it likes train travel

Even under the discomforts, the delays and overcrowding that are the general rule in wartime—and no one deplors them more than the railroad man—thousands of young folks who never rode the rails before have suddenly discovered and become enthusiastic about train travel. It's not going to be very hard to keep them train-minded.



Getting them there fast will sell more tickets, too

Fast schedules that clip hours from present runs will inevitably appeal to a speed-minded public—especially when combined with comfort and reasonable cost. *More* fast trains on popular revenue-paying runs—feeder bus service or convenient local service to connect with transcontinental hauls—will also help to keep them traveling by train.



The comfort of rail travel has an irresistible appeal

The crowds that before the war flocked to the streamliners and that clamored for seats on name trains like the Hiawatha, Silver Meteor, El Capitan and the Daylights—on which comfort and low cost were combined to make train travel more attractive, are proof of what the public wants. And there's no question that these trains **PAID**.



Remind them—the rail way is the safe way to travel

It isn't hard to convince people that, as regards safety, no other form of transportation approaches the security of train travel. Statistics tell the story. Tell them of the safety devices, the intricate and fool-proof signaling systems, the continuous and minute care that safeguard their journeys by rail. Never forget, self-preservation is the first law of nature—and safety counts **BIG**.

WHEN YOU PLAN FOR THE FUTURE

In the "Daylight" trains, cars built of U-S-S Cor-Ten with sheathing of U-S-S Stainless are 27% lighter than conventional equipment.

In the Burlington's Twin Cities "Zephyrs", weight has been kept to a minimum with U-S-S Stainless Steel.



with modern lightweight equipment

●Unless you are reconciled to seeing your passenger business dwindle to pre-war levels, *today* is not a minute too soon to start planning to meet the stiff competition that other forms of transportation will inevitably offer as soon as the war is over.

LIGHTWEIGHT EQUIPMENT IS MODERN

Pleasant to look at, pleasant to ride in, clean and comfortably air-conditioned, lightweight equipment, and the fast, streamlined trains it makes possible, has provided the railroads with a new and potent merchandising tool that needs only to be properly applied to get results.

Because it is modern in getting rid of dirt, discomfort and needless dead weight, the lightweight streamliner gives passengers more for their money than ever before. It has fostered more public interest in rail travel than any one thing since the opening of the first transcontinental line in 1869.

In lightweight passenger equipment, eye-appealing design, split-second schedules and solid traveling comfort at reasonable cost can be combined in a simple formula that has proved itself irresistible in its appeal to the traveling public.

LIGHTWEIGHT EQUIPMENT CAN BE HAULED FASTER, SAFELY

Speed—with safety—is the stock-in-trade of all featured trains. As much as any other factor it accounts for their phenomenal success in boosting passenger traffic.

Lightweight design that has effected weight savings up to 60% in comparison with conventional construction not only has made greatly increased train speeds possible—with no increase in motive power—but entails no sacrifice in service life or safety. One fact these high-speed trains have demonstrated is that lightweight equipment actually makes for safety, both from the standpoint of brake control and from the reaction of high speeds on the track. The safety record of these trains speaks for itself.

LIGHTWEIGHT EQUIPMENT COSTS LESS TO HAUL

A lightweight car obviously requires less power to move than does heavy conventional equipment. Because of this fact lightweight construction has made it possible to provide superior service to the public—at lower cost to the railway. For by reducing the 650 tons represented by the conventional eight-car train to 400 tons, equivalent train performance can be obtained with one-third less locomotive capacity.

Important and substantial savings result. First, from the lowering of initial cost of motive power. Second, from the decrease in fixed charges and fuel costs throughout the life of the equipment.

ITS HIGH EARNING POWER HAS BEEN PROVED

The record of earnings rolled up by the streamliners and by lightweight equipment, is impressive. Recent figures are not available but those compiled in 1940 are indicative of the economic soundness of lightweight equipment in terms of return on investment.

We cite for example the Daylight trains of the Southern Pacific which, operating between Los Angeles and San Francisco, rang up net revenue per train mile of \$3.853 at a cost of \$1.451 per train mile. Or the Milwaukee's Hiawatha, running between Chicago and the Twin Cities, with a net revenue per mile for the two 9-car trains of \$3.20 at an outlay of \$1.04.

In any study of cost sheets, maintenance sheets and revenue sheets, lightweight equipment, with scarcely an exception, shows its value not only as a traffic builder, but in boosting revenue. It is on a cold dollars-and-cents basis of superior earning power that lightweight equipment recommends itself to your earnest consideration for the future.

LOOK AT THE PAST

Cars of the traffic-building "Rebels" are built with U-S-S Cor-Ten, 46% lighter than conventional equipment.



●As you review in your mind the famous streamliners that, since their inception have revitalized the railroads' passenger carrying business, it is well to remember that almost 80% of them have been built with U-S-S Stainless Steel and U-S-S Cor-TEN.

U-S-S Stainless was used in the original "Zephyr", the first streamline Diesel-electric train placed in regular service in the United States.

Of 39 streamliners put into service in 1940, 31 were built of U-S-S High Strength or U-S-S Stainless Steels. In 1941, 635 new lightweight cars were placed in service, 613 of them were built with U-S-S Stainless, with U-S-S Cor-TEN, or both.

Lightweight cars of the Santa Fe's "Super Chiefs" are built of Cor-Ten sheathed with U-S-S Stainless.

*Plan to build light
with these service-tested steels*

U-S-S STAINLESS STEEL

U-S-S COR-TEN

To date, more than 3000 lightweight rail passenger units have been built—using U-S-S Stainless, U-S-S COR-TEN or both. In these special higher-strength steels, leading builders and car designers have found the answer to their search for superior materials for reducing passenger car weight safely—and economically as well.

From the standpoint of design, their high strength-weight ratio and their high resistance to atmospheric corrosion make them inherently adapted for lightweight construction. The high modulus of elasticity of steel is especially advantageous because it minimizes deflection, of primary importance in passenger equipment.

In the shop, these steels are readily formed and fabricated by the commonly used processes. Both are suitable for high-speed welding, which makes for economical and efficient joining of light members.

Accelerated by the war, important advances in steel metallurgy and improvement in steel production practices will inevitably be reflected in these fine steels when they are again made available for passenger car construction. We welcome the opportunity to work with your designers in applying U-S-S High Strength and U-S-S Stainless Steels in your post-war planning.

In the third "Hiawatha", cars built with Cor-Ten weigh 38% less than conventional equipment.

Most of the lightweight cars of the "Rockets" were built with U-S-S Stainless, the remainder were built with U-S-S Cor-Ten.



U-S-S STAINLESS AND HIGH STRENGTH STEELS

AMERICAN STEEL & WIRE COMPANY, *Cleveland, Chicago and New York*
CARNEGIE-ILLINOIS STEEL CORPORATION, *Pittsburgh and Chicago*
COLUMBIA STEEL COMPANY, *San Francisco*
NATIONAL TUBE COMPANY, *Pittsburgh*
TENNESSEE COAL, IRON & RAILROAD COMPANY, *Birmingham*

United States Steel Supply Company, *Chicago, Warehouse Distributors* • United States Steel Export Company, *New York*

UNITED STATES STEEL



Short Cuts to quicker hauls



AMERICAN railroads now are carrying nearly twice the gross ton-miles of freight they were hauling three years ago . . . and they are breaking all records in passenger traffic. This amazing wartime performance is neither a miracle nor a military secret. It is the result of hard work, skillful coordination, careful maintenance — and a far-sighted engineering program on the part of management that prepared the railroads for today's emergency.

A dominant feature in this long-range planning has been the erection of modern bridges to shorten circuitous routes, eliminate flood hazards, and improve traffic integration. How fortunate it is for our nation's war effort that many of these projects were completed before Pearl Harbor!

American Bridge has built many of these strategic structures. For example, the massive high-level bridge above is the main link in an impor-

tant cutoff which shortened trackage by $3\frac{1}{2}$ miles and kept it clear of flash floods. The double-deck cantilever bridge shown was erected as part of railroad and highway relocations made necessary by a huge water-power and irrigation project. The bascule bridge replaced an old swing span, providing a wider navigation channel and speeding both rail and river traffic because of a sharp reduction in opening and closing time.

We are glad to have had a part in projects which contribute so greatly to the wartime usefulness of America's railroads. And we look forward to the time of peace when all our resources and facilities will again stand ready to serve the railroads in meeting their post-war tasks and responsibilities.

AMERICAN BRIDGE COMPANY

General Offices: Frick Building, Pittsburgh, Pa.



Baltimore • Boston • Chicago • Cincinnati • Cleveland • Denver • Detroit • Duluth
Minneapolis • New York • Philadelphia • St. Louis

Columbia Steel Company, San Francisco, Pacific Coast Distributors

United States Steel Export Company, New York

UNITED STATES STEEL



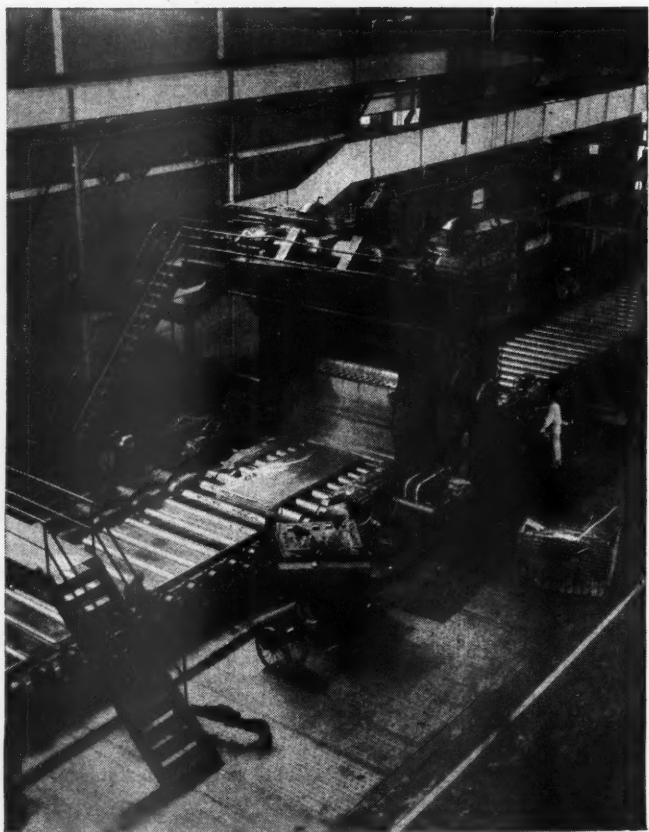
BAUXITE ORE from Reynolds' own mines is the beginning of Reynolds aluminum. Reynolds is now mining more bauxite than was mined in the entire United States before the war.



ALUMINA, made from bauxite, is reduced electrically to aluminum metal in Reynolds' complete plant at Listerhill, Ala. More electric power is used here than in the entire state of Mississippi.



ALUMINUM INGOTS are remelted, alloyed with other materials to give increased strength. After the war is over, aluminum will be far stronger than ever before . . . will be lower in cost.



FINISHED ALUMINUM sheets, rods and bars roll from Reynolds' huge mills and presses. This is the natural post-war material for transportation equipment, light, lasting and strong.

REYNOLDS ALUMINUM:

a complete new source of supply for transportation's post-war needs

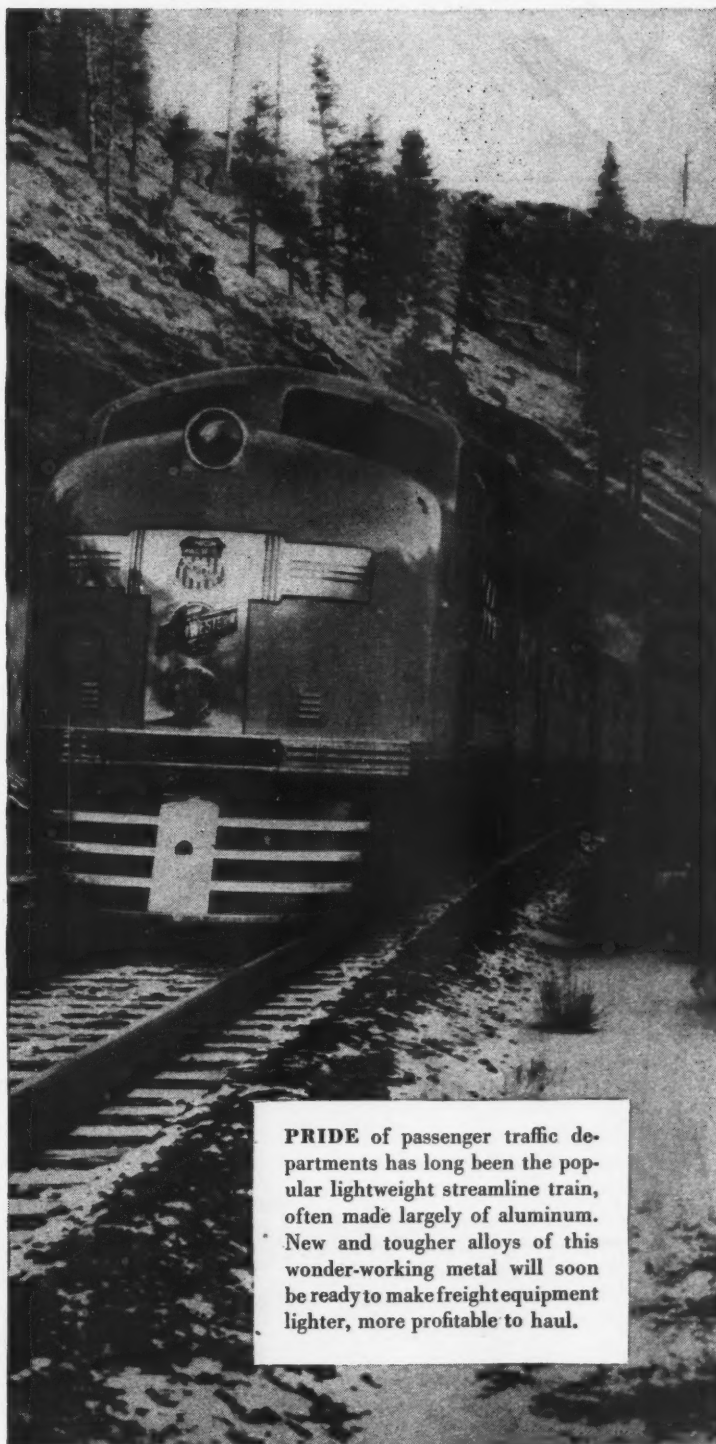
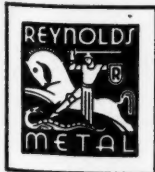
MOST natural and practical metal to use for railroad rolling stock after the war is aluminum. Transportation engineers have known this for years—have already taken substantial steps towards the widespread use of aluminum by introducing the popular and profitable streamliners.

There will be more streamline passenger trains as soon as aluminum is again available for civilian use, but railroad operating men will not stop there. With new tougher aluminum alloys available at lower prices, there is every reason to make a large part of all freight equipment, as well as passenger equipment, from aluminum. Operating savings are impressive—aluminum's superior resistance to corrosion is important with many types of loads.

Designs for aluminum coal cars, refrigerator cars, box cars, tank cars, and locomotive parts are already taking shape on Reynolds drawing boards. This is another example of the *complete* aluminum service offered by Reynolds . . . a service that starts with mining raw bauxite ore and follows through *every* process needed to make aluminum metal and fabricate it into finished parts and products.

Much of the overworked rolling stock in use today will be retired after the war. You will find experienced railroad men in the Reynolds organization ready to help you replace it with lighter, stronger equipment that will mean improved service and increased profits wherever freight or passengers are hauled. Reynolds Metals Company, Railway Supply Division, 310 S. Michigan Blvd., Chicago 4, Illinois.

MR. J. W. BURNETT, recently general superintendent of motive power and machinery of the Union Pacific, is in charge of all Reynolds plans for aluminum railroad equipment. Mr. Burnett has been continuously in railroad service since 1909, starting with the Burlington Lines and joining the Union Pacific in 1912. Working up from machinist's apprentice through district foreman, master mechanic, and assistant superintendent of motive power, he was appointed general superintendent of motive power and machinery in 1933. Mr. George S. Goodwin, formerly engineer of car construction of the Rock Island, will assist Mr. Burnett in designing locomotive and car parts of all types of improved aluminum alloys.



PRIDE of passenger traffic departments has long been the popular lightweight streamline train, often made largely of aluminum. New and tougher alloys of this wonder-working metal will soon be ready to make freight equipment lighter, more profitable to haul.

AT THE DANCE . . .



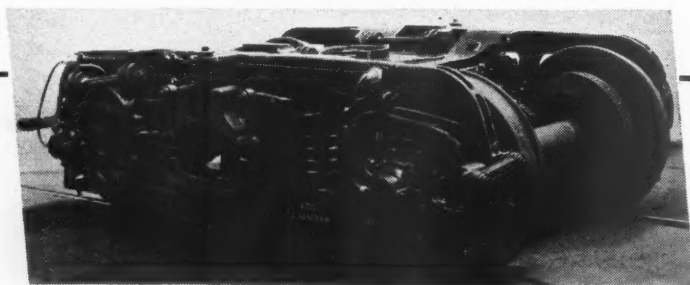
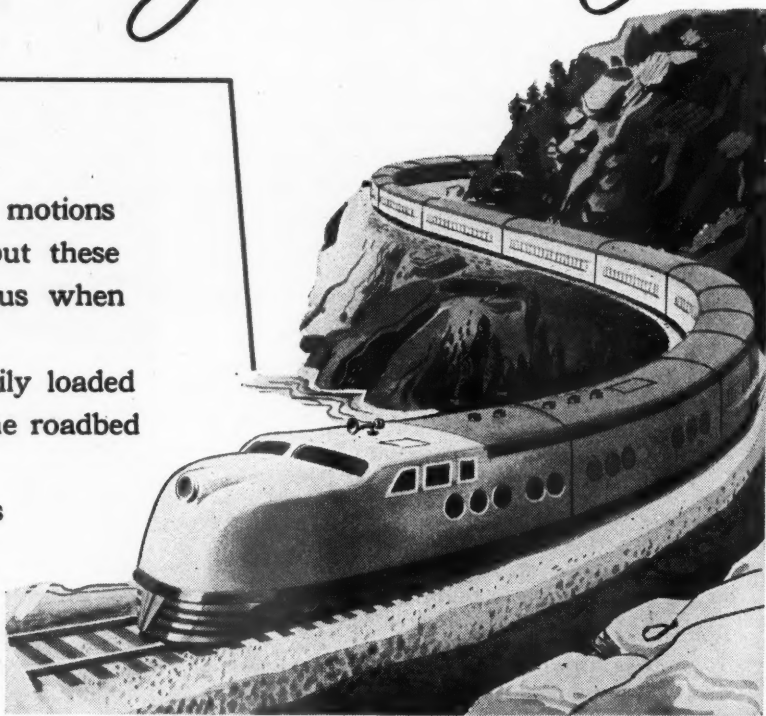
It's Swing + Sway

● Swing and Sway are the motions expected on a dance floor, but these motions may prove disastrous when they occur on railway cars.

Violent swaying of heavily loaded cars may seriously disturb the roadbed and cause accidents.

Monroe Shock Absorbers are installed to control violent swinging and swaying—and now engineers are planning for post-war equipment that will be modern and safeguard the railroads interests.

Our engineers will gladly work with you—that the best results and satisfaction may be obtained.



Westinghouse Friction Draft Gear



Type NF-11-E

For Passenger Service

Smooth operating — with soft action up to half travel which gradually builds up to adequate capacity at full closure.

Used on the army troop and kitchen cars.

CARDWELL WESTINGHOUSE CO., CHICAGO
CANADIAN CARDWELL CO., LTD., MONTREAL

LET A.C.F.'S LONG
PRACTICAL EXPERIENCE

Protect

your post-war



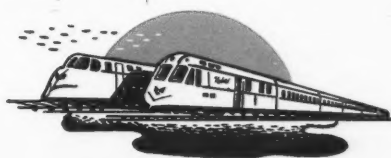
Among the earliest light-weight, self-propelled trains to be put in service were the twin "Rebels", built in 1935 by Q.C.F. for the Gulf, Mobile and Northern Railroad — now the Gulf, Mobile and Ohio. These twins, and a third "Rebel" added a few years later, have been in **CONTINUOUS, PROFITABLE OPERATION EVER SINCE THEIR INITIAL RUNS.** Cast back in your mind to the early days of the streamliners, and you'll catch the full import of that statement . . . "CONTINUOUS, PROFITABLE operation ever since their initial runs."

Passenger Equipment Dollars!

What enabled the Q.C.F.-built "Rebels" of 1935 to give such superior service over practically the entire Era of the Streamliners? It was largely due to the fact that Q.C.F. bases each new design on the solid rock of practical experience. As a major source of supply to the railroads through all but their earliest years, Q.C.F. knows **RAILROADING** as well as **CAR BUILDING**.

It was Q.C.F.'s knowledge of railroading that led Q.C.F. to design the "Rebels" of 1935 with strength factors fully adequate to the service to be performed. It was Q.C.F.'s knowledge of railroading that led Q.C.F. to give to the "Rebels" of 1935 a **WEIGHT PER LINEAR FOOT ALMOST EXACTLY THAT WHICH THE INDUSTRY IN GENERAL ADOPTED SOME YEARS LATER.** It was Q.C.F.'s knowledge of railroading that insured that the new design would meet the operating conditions in full — and made it possible for the Q.C.F.-built "Rebels" of 1935 to render **CONTINUOUS, PROFITABLE** service right down through the years.

Any railroad desirous of safeguarding its investment in the great advances about to come in post-war passenger car equipment, may well turn to Q.C.F.'s proved record of sound design.



Q.C.F.

AMERICAN CAR AND FOUNDRY COMPANY

NEW YORK • CHICAGO • ST. LOUIS • CLEVELAND • PHILADELPHIA
PITTSBURGH • ST. PAUL • SAN FRANCISCO



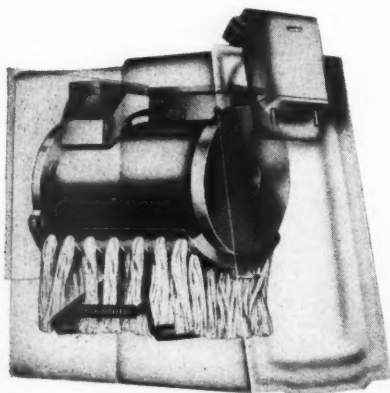
The "Daylight", Southern Pacific's famous streamline train, runs for 130 miles along the shore of the Pacific, on its dawn-to-dusk flight between Los Angeles and San Francisco.

For **HEAVY-DUTY HIGH-SPEED** *Service*

Satco-Lined Bearings

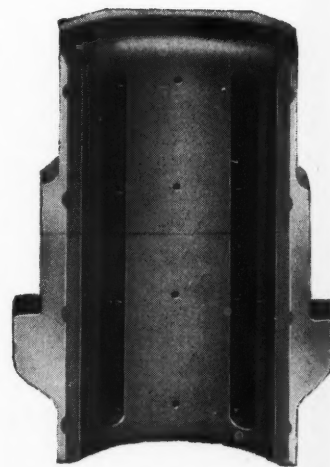
Freight and Passenger Locomotives and Tenders, and passenger cars — especially equipment used in high-speed service — are now benefiting from the use of Magnus Bearings lined with Satco Metal.

Magnus Journal Lubricator assures positive lubrication. Lubricator Pad held against journal by spring pressure.



Conserve Critical Metals. — Satco Metal is used in place of lead and tin-base babbitt, block tin and other linings using critical metals. Prompt deliveries are assured.

Cut Maintenance and Replacement Costs. — Satco Metal greatly increases bearing mileage, thus reducing both labor and material replacement costs.



Magnus Satco-Lined Oil-Tube Journal Bearing.

MAGNUS METAL CORPORATION
CHICAGO NEW YORK



HOW TO WIN POSTWAR PASSENGER BUSINESS!

During the depression people were lured to railroad travel by new, streamline trains of greater speed, comfort and safety. A. S. F. designed and built equipment that contributed to the achievement of that greater speed, comfort and safety. A. S. F. Simplex Unit Cylinder Clasp Brakes made possible quick, time-saving stops with safety and comfort. A. S. F. springs gave a smoother ride even at higher speeds. Today research engineers at A. S. F. laboratories work constantly to produce equipment that will contribute even more, A. S. F. believes, for the winning of postwar business.

AMERICAN STEEL FOUNDRIES

CHICAGO

MINT-MARK OF  FINE CAST STEEL



HANDSOME *Is* **AS PLYMETL** *Does*

**Beauty and Endurance Combined in
PANELS by HASKELITE**

In this deluxe diner, made for Illinois Central System by Pullman-Standard Car Mfg. Co., as in other Pullman-built coaches and sleepers, Haskelite Plymetl is used to reduce weight without sacrificing strength or rigidity.

● There is more than meets the eye in panels, partitions and doors of Haskelite Plymetl. Behind the luxurious finish this flat, non-wavy material takes, there is exceptional strength and rigidity . . . light weight . . . great resistance to the wear and tear of day in, day-out service . . . desirable sound-deadening qualities . . . easy fabrication by men of average skill, with most of the work done at the bench, where it can be handled most efficiently.

Supporting facts and figures on these and other Plymetl qualities are available on request. Please address R. R. Engineering Sales No. 1.

HASKELITE MANUFACTURING CORPORATION
GRAND RAPIDS 2, MICHIGAN

Chicago, Illinois

Detroit, Michigan

New York City

HASKELITE

Plymetl

Phemaloid

1908-1943

AN OUTSTANDING PHONO-ELECTRIC SERVICE RECORD SPANNING 2 WORLD WARS



Moving more than two-million troops and their equipment a month in addition to regular passenger travel, the railroads of the Nation are successfully carrying more than four times the freight and passenger travel of 1939.

This represents a remarkable achievement by management, operating and maintenance staffs in spite of equipment, manpower and replacement material shortages. In the New York, New Haven & Hartford Railroad and other electrified systems Phono-Electric Bronze Contact Trolley Wire has been found an important factor in maintaining uninterrupted service on these vital arteries of wartime transport.

An outstanding example of the durability and efficiency of Phono-Electric Bronze Trolley Wire was demonstrated when the Phono-Electric wire originally installed by the New York, New Haven & Hartford Railroad in 1908 was finally replaced after thirty-five years of continuous service. It is qualities such as these that make Phono-Electric a first consideration wherever new electrification or replacement plans are being made.



BRIDGEPORT BRASS COMPANY

BRIDGEPORT 2, CONN. • ESTABLISHED 1865

OVER TWO-MILLION PANTAGRAPHS
PASSED UNDER THIS PHONO-ELECTRIC WIRE
SINCE ITS INSTALLATION BY THE NEW YORK,
NEW HAVEN & HARTFORD RAILROAD IN 1908



Actual size, cross-sectional view of type of wire originally installed by the New York, New Haven & Hartford Railroad in 1908.



Actual size, cross-sectional view of Phono-Electric wire after 35 years continuous service.

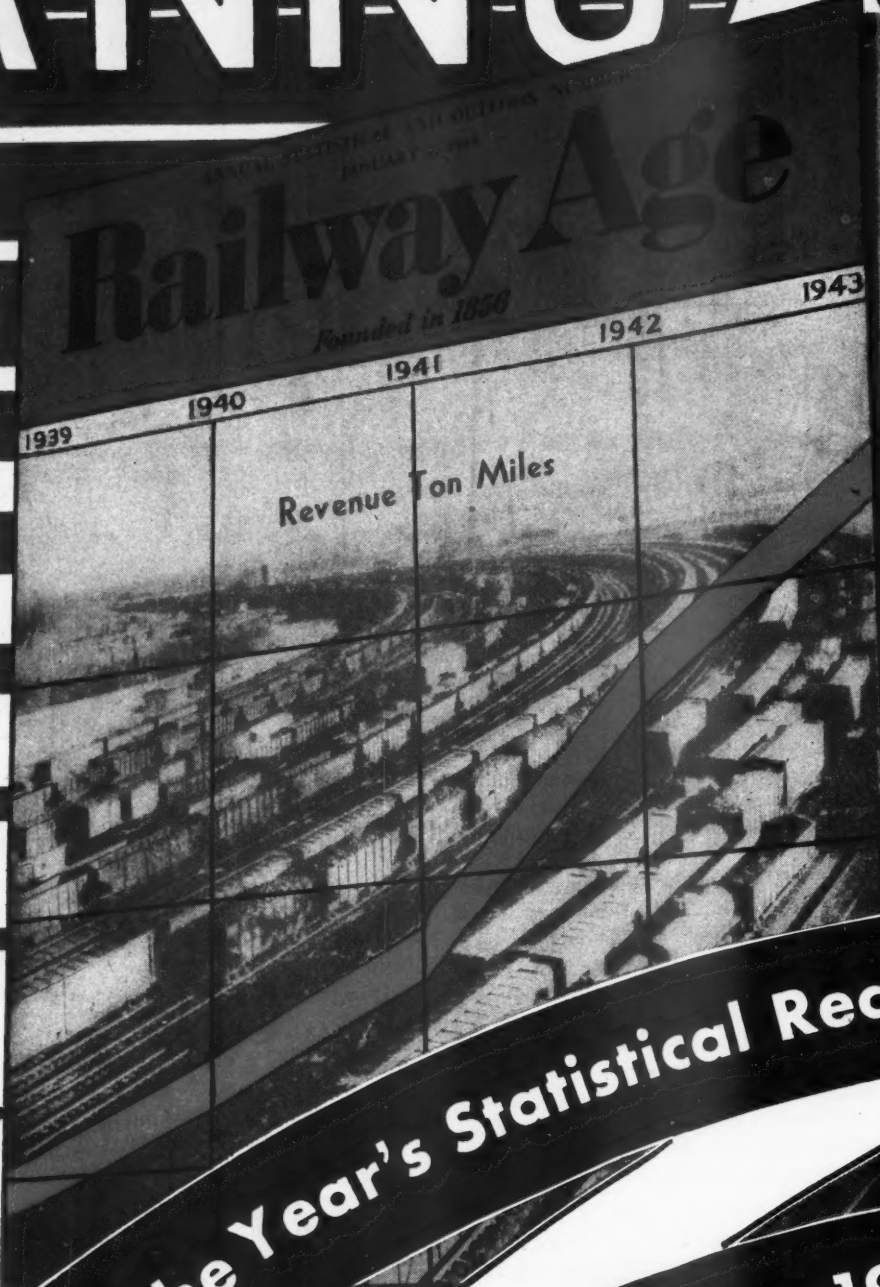
Installed in 1908 by the New York, New Haven & Hartford Railroad Company, the life of this worn section of Phono-Electric wire spans two world wars. Two-million pantographs have passed under this wire in thirty-five years of service.



BRIDGEPORT BRASS



1944 ANNUAL

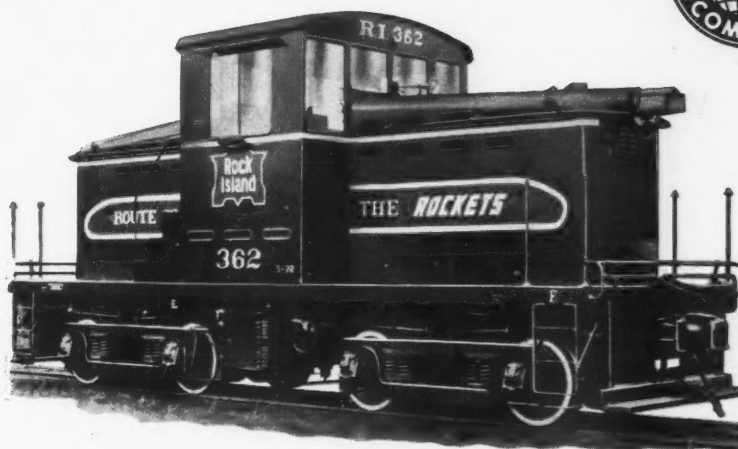


The Year's Statistical Record

The Opener for Your 1944 Selling

**Closing Date
for Advertising Copy
Dec. 15**

-- and Coach Work, too



One of the Davenport Lighter Diesel Switchers now delivering substantial economies to the Rock Island Lines.

Important Through the TOMORROWS

DAVENPORT LIGHTER DIESEL SWITCHERS

The 44-Ton Diesel-Electric and 35-Ton Diesel-Mechanical Switchers — pioneered by Davenport — have won a definite spot of favor in railroad economy.

These modern units are quiet, efficient, responsive and powerful. They are ideal for Switching, Branch Line Service and Coach Work, too.

On locations where 60-Ton steam switchers represent over-power and consequent waste, the economies effected by Davenport Lighter Diesel Switchers are profoundly impressive. In the progressive tomorrows of railroading, they will command an increasing importance.



HAVE YOU BOUGHT
YOUR SHARE OF WAR
BONDS THIS MONTH?

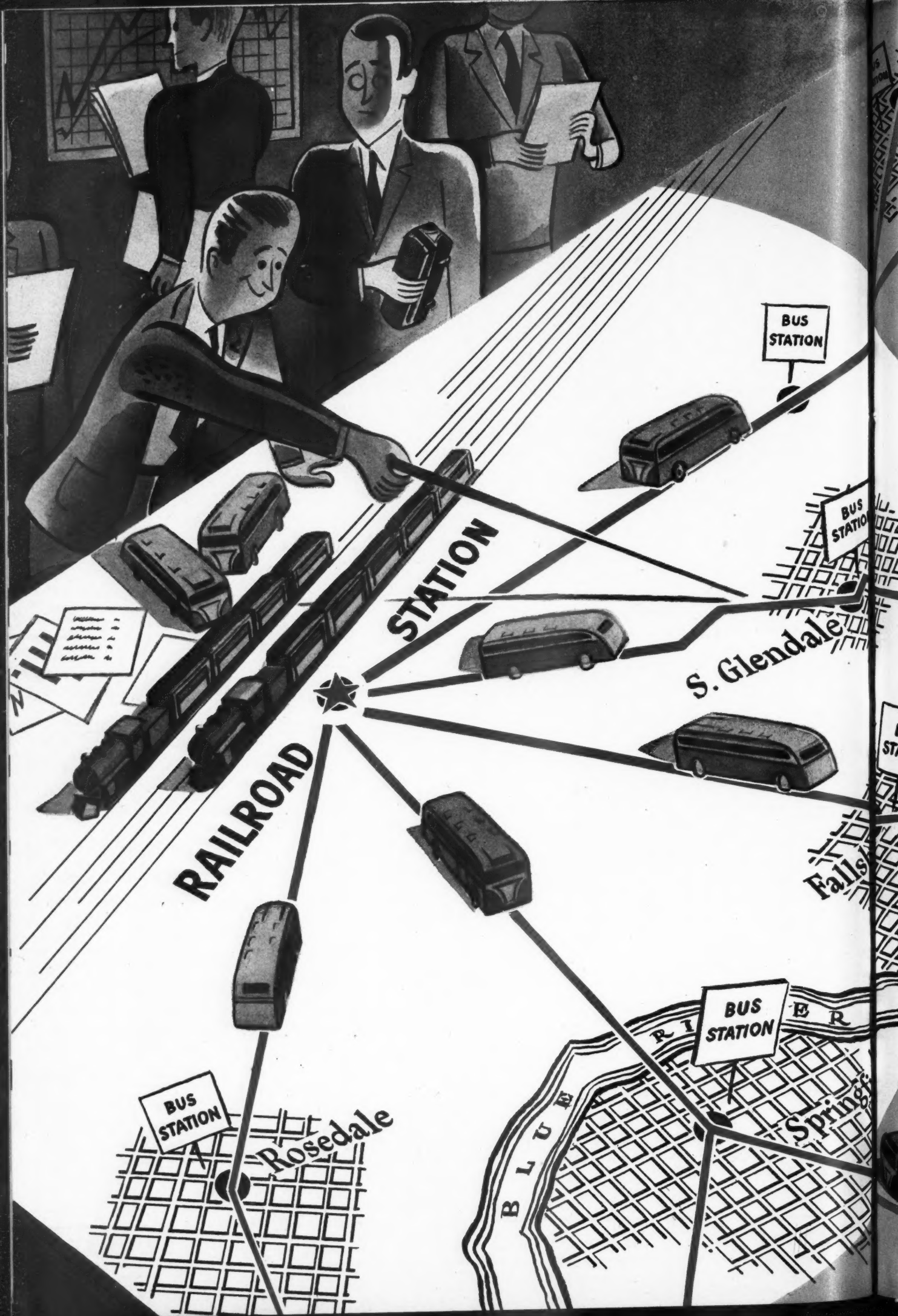
Your Inquiries Will Command Our Prompt Response

DAVENPORT LOCOMOTIVE WORKS

A DIVISION OF DAVENPORT BESLER CORPORATION

DAVENPORT, IOWA, U. S. A.

DEPENDABLE HAULAGE POWER SINCE NINETEEN HUNDRED





UNLESS

some of our keenest railroad minds
are **WRONG** . . . a lot of railroads
can make real money by building up
their **POST-WAR BUS SERVICE!**

Some of the keenest minds in the railroad business size up the post-war pattern of passenger transport about like this. 'At war's end there will be a great boom in travel. The sky will get the travelers who have very long distances to go in a hurry. Fast through trains, modernly equipped, should be able to hold on to the bulk of the passenger travel between all large cities. And buses will certainly carry more and more of the short-haul intercity riders — in fact, they already carry a good slice of that group.'

If it works out that way — and it seems pretty likely to do so — it's going to make quite a difference in the earnings of a railroad whether these buses are *feeders* or *competitors*. Railroad operation of buses is not just a question of substituting buses for local rail services now in the red. It goes far deeper than that, and whatever is done must result

in an integrated transport system *which places the railroad's entire facilities directly at the disposal of the whole area it serves.*

When it comes to 'building' passenger traffic, every railroad man knows the value of having top-quality, modern railroad cars. And it's the same — or even more so — with buses! People like to ride on Q.C.F. buses, and their high passenger appeal is being proven in every section of the country. Beyond this, in one bus operation after another, cold figures show the dollars-and-cents value of Q.C.F. inbuilt quality in holding operating and maintenance costs at a minimum.

These two outstanding characteristics of Q.C.F. buses — their *high passenger appeal*, and their *economy of operation and maintenance* — should be given careful consideration by any railroad contemplating bus operation.

Because Q.C.F. buses keep running longer — they're the buses to run!

The Q.C.F. Motors Company

A DIVISION OF THE BRILL CORPORATION
PHILADELPHIA, PENNSYLVANIA

INDISPENSABLE

... IN THE CONSTRUCTION OF TRANSPORT EQUIPMENT

In locomotives — in the power plants of war industries — in fighting, transport and merchant ships — Globe seamless steel tubes are meeting the extra demands of wartime service.

Globe mechanical tubing — available as seamless, stainless, or welded — is serving many critical needs in aircraft construction — transport planes, bombers, fighters, trainers, gliders.

GLOBE STEEL TUBES CO.
MILWAUKEE, WISCONSIN

LAND

SEA

AIR

TRACTORS

TRUCKS

LOCOMOTIVES

MERCHANT SHIPS

TRANSPORT PLANES

GLOBE

STEEL

TUBES

GLOBE TUBES

- Boiler & Pressure Tubes
- Condenser & Heat Exchanger Tubes
- Stainless Tubes (Seamless)
- Mechanical Tubing
- Gloweld Tubes (Welded Stainless)
- Globeiron Tubes (Seamless Pure Iron)

Carbon — Alloy — Stainless Steels

THE "400" FLEET DELIVERS



ASSURED TRANSPORTATION

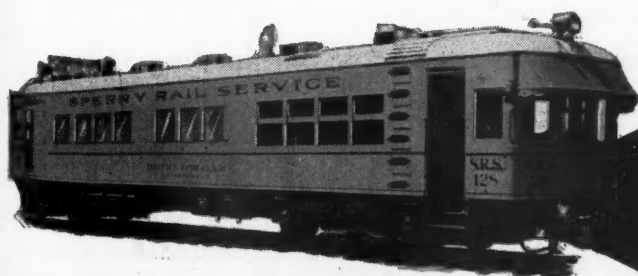
with **SPERRY RAIL SERVICE**



Safety is the first consideration of all railroad operation. Maximum safety can only be attained by constant inspection and maintenance. One of the surest methods of testing rails is provided by the Sperry Rail Service.

The detector cars of the Sperry Rail Service regularly and effectively test rails in track. Equipped with the most modern apparatus, these cars and their highly-trained crews readily locate fissures, split heads, and other rail defects that could mean disaster if undetected. Once located, these defective rails are immediately replaced.

Under the severe conditions of wartime service, the rails of all systems are taking an increased hammering day and night. But with Sperry Rail Service doing its part, Chicago & North Western and the more than 80 other railroads using Sperry Service are delivering—assured transportation.



Sperry Detector Cars, during the past 15 years of commercial service, have proved to be the most efficient and effective means of testing rails in track.

SPERRY

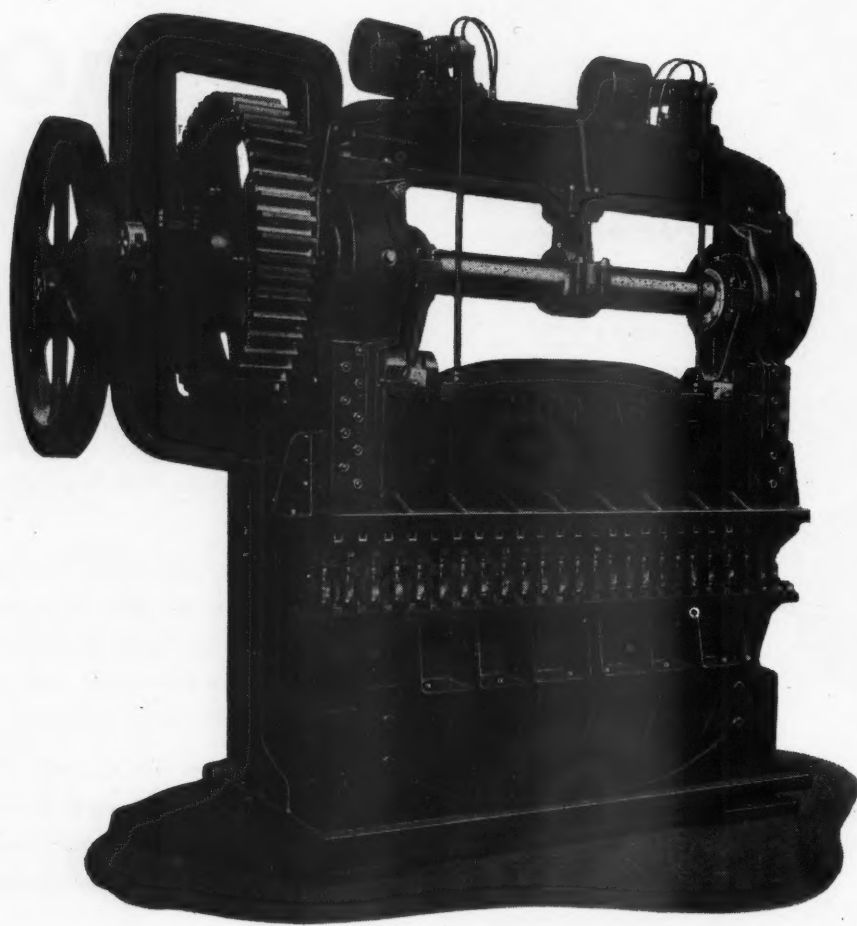
Rail Service

HOBOKEN, N. J. • CHICAGO, ILL.

THOMAS

Multiple Punches

For Railroad Car Shops



This 600 ton Multiple Punch was built by Thomas for one of our leading railroad systems.

Thomas can build equipment for the forge shop or car shop to meet your specific requirements.

THOMAS
MACHINE MANUFACTURING COMPANY
PITTSBURGH, PA.

SPACING TABLES • DUPLIKATORS • PUNCHES • SHEARS

ON VICTORY PASSENGER POWER



PASSENGER traffic revenues are important to the American railroads. Any factor which contributes to the efficiency and economy of high speed operation will play a vital role in tomorrow's bid for passenger traffic.

L.F.M. Light Weight Alloy Steel Pistons and Combination Universal Sectional Bull and Packing Rings offer a solution to several operating and maintenance problems. They will be found on the victory passenger power of today.

L.F.M. Pistons are approximately 50% lighter than the conventional type—this feature helps to reduce dynamic augment at high speeds—reduce disastrous pound and frictional wear. L.F.M. Universal Packing Rings insure steam tight operation and are noted for their long service life.

THE LOCOMOTIVE FINISHED MATERIAL CO. ATCHISON, KANSAS

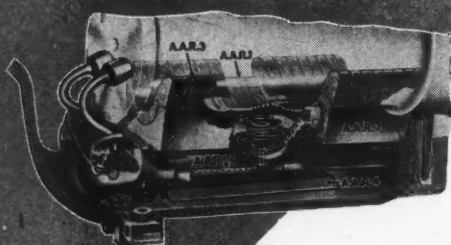
310 SOUTH MICHIGAN AVE., CHICAGO
GRAYBAR BLDG., NEW YORK CITY



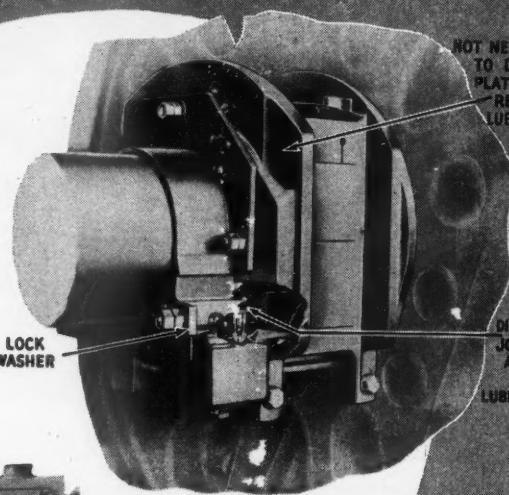
**LIGHT WEIGHT ALLOY STEEL PISTONS
and Combination Universal Sectional
BULL AND PACKING RINGS**

WITH THE HENNESSY *Mechanical Journal Lubricator*

You Can Run Your Locomotives
TO THE LIMIT!



A. A. R. TYPE
HENNESSY MECHANICAL JOURNAL LUBRICATOR

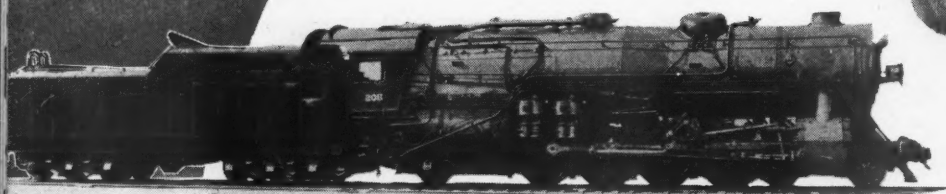


NOT NECESSARY
TO DISTURB
PLATE WHEN
REMOVING
LUBRICATOR
BODY

OIL
SUPPLY
DIRECT TO
JOURNALS
AFFORDS
BATH
LUBRICATION

LOCK
WASHER

DRIVER TYPE
HENNESSY MECHANICAL JOURNAL LUBRICATOR



4-8-2 FREIGHT LOCOMOTIVE
264,000 LBS. WEIGHT ON DRIVERS

INCREASED availability of locomotives is a certainty when
Hennessy Mechanical Journal Lubricators provide oil bath
lubrication to every bearing.

Much shorter time is required for servicing, because of the
ease of applying oil to the lubricator, resulting in decreased
cost of maintenance.

The use of oil, the proper lubricant, conserves vital ma-
terials such as steel, brass and babbitt. It is not unusual for
locomotives equipped with Hennessy Mechanical Journal
Lubricators to run over 200,000 miles without any repairs
or appreciable wear on journals, bearings and hub faces.
No crown brass has ever worn out in service when provided
with Hennessy Positive Oil Bath Lubrication.

**HENNESSY
LUBRICATOR**

HENNESSY LUBRICATOR CO., Inc.

5 WEST STREET

NEW YORK 6, N. Y.

"STANDARD STOKERS"



The mass movement of millions of men in the armed services and the unusually heavy civilian travel is placing a tremendous demand on existing rail-road equipment. American Railroads are meeting this challenge by outstanding achievement.

PERFORMANCE and DEPENDABILITY of Standard Stokers under these abnormal conditions testify to their in-built QUALITY and to the SERVICE that backs them up.

Over 16,500 locomotives equipped with Standard Stokers—"Keep 'em Rolling to Victory"

Photo courtesy of U. S. Signal Corps

THE STANDARD STOKER COMPANY, INC
NEW YORK • CHICAGO • ERIE • MONTREAL





THE NATIONAL ROAD . . . Originally known as the Cumberland Road, the National Road was the first government financed highway project in the United States. Authorized by Congress,

construction started in 1808 — completed in 1852. The road extended from Cumberland, Maryland, through the Alleghenies to Wheeling, Virginia (now West Virginia), on to Zanesville,

ROADBEDS . . . *Supporters of Progress*

Credit for Ancient Rome's domination of Gaul and Britain goes to their well-disciplined Legions. History acclaims those swiftly moving cohorts. But, the secret of their successful marches and countermarches lay in the splendid roads they built and maintained in the conquered areas. Napoleon, too, knew the value of good roads during his ascendant years.

American civilization was a thin fringe along the Atlantic seaboard until good roads began to be built inland. The first government financed road project—the Cumberland Road, extending from Cumberland west through the Alleghenies—made possible the rapid development of the vast and rich lands drained by the

Ohio and Mississippi Rivers.

The development and maintenance of good roads is the history of man's progress and civilization.

What is true of roads is true of Railway roadbeds—the arteries of America's most vital system of transportation. As crude steam wagons gave way to improved engines, roadbeds must needs follow in perfection, that invention might be successfully exploited. Throngs might thrill and cheer the marching soldiers or the belching locomotive, but the good foundations on which they traveled gave them the unobstructed way to progress.

Today, as the great Railway Systems of the United States, developed by private enterprise, shatter all pre-

OF ALL THE CARS IN SERVICE TODAY.



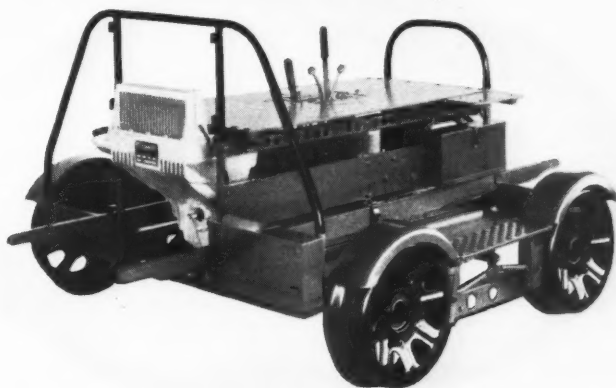
Columbus, Springfield, Ohio; Indianapolis and Terre Haute, Indiana, and terminated at Vandalia, Illinois — more than 600 miles, of which 270 miles lay across the Alleghenies. This

highway was 60 feet wide and had a three-foot solid rock foundation. The maintenance of this roadbed ran into millions of dollars annually — a fabulous sum in those days.

vious records for the movement of men and materials, due credit should be given the loyal and efficient maintenance crews, whose vigilant care safeguards the thundering passage of these champions of freedom. To supply these maintenance crews with swift dependable railway motor cars is Fairmont's task—a responsibility we take deep pride in having fulfilled successfully.

Fairmont

RAILWAY MOTOR CARS



M 19 Series E—1-4 man car. Extension lift only 95 lbs. Spring mounted chassis for smooth riding. 5-8 H.P. R O Hy-Load Roller Bearing Engine for ample reserve power. Bulletin 396.

AY. MORE THAN HALF ARE FAIRMONT S

Dual Service

... for Switching or Branch Line



RUGGEDLY built... extremely efficient, with top availability ranging between 94 percent and 97.7 percent, Whitcomb 44 ton diesel electric locomotives are helping the Chicago, St. Paul, Minneapolis and Omaha Railway Company, and numerous other railways keep the promise to "keep 'em rolling." They look small but they pack a lot of power—power enough to move long lines of cars and with speed and economy.

Today Whitcomb Switching Engines are engaged in many diversified tasks, such as switching and spotting cars on branch and spur tracks in terminals, yards, in ordnance depots, in steel and cement mills, in taking care of every conceivable job from light switching to transfer runs of several miles, with maximum efficiency.

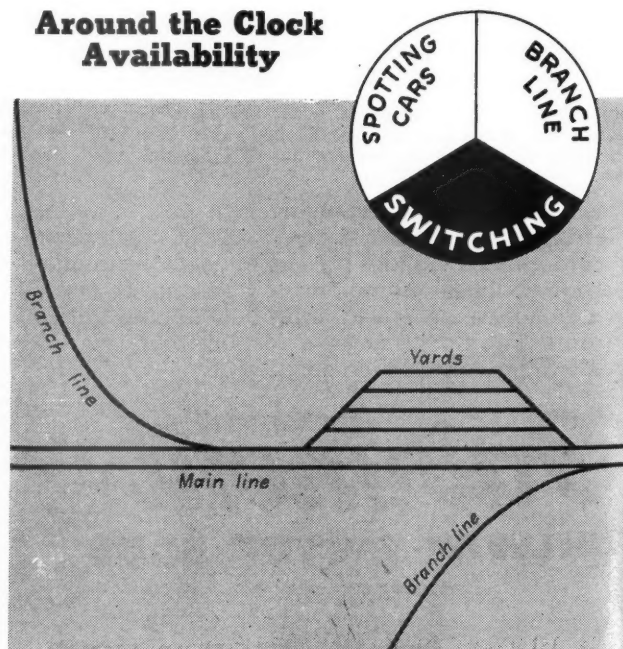
The complete Whitcomb line includes:—

Diesel and Gasoline Locomotives: mechanical or hydraulic transmission on locomotives weighing up to 40 tons; electrical transmission up to 80 tons.

Electric Locomotives: storage battery locomotives 1¾ tons to 12 tons in weight.

Designed and engineered by craftsmen thoroughly acquainted with railway supply and maintenance problems, Whitcomb locomotives are ruggedly constructed and have easy access for inspection and maintenance.

Around the Clock Availability



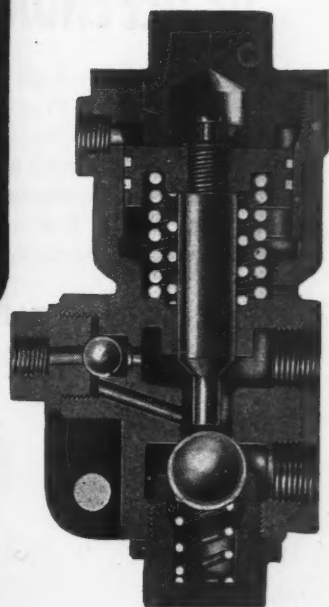
THE WHITCOMB LOCOMOTIVE CO.

Subsidiary of **ROCHELLE, ILL.**
THE BALDWIN LOCOMOTIVE WORKS

Viloco SANDERS

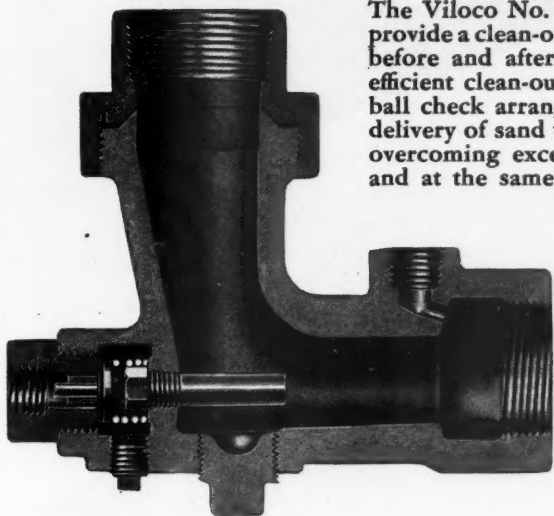
FOR DIESEL AND ELECTRIC LOCOMOTIVES

The Viloco Sander equipment for Diesel and Electric Locomotives is especially designed for this type of service. It is economical in the use of sand and air; reliable and efficient under all weather conditions.



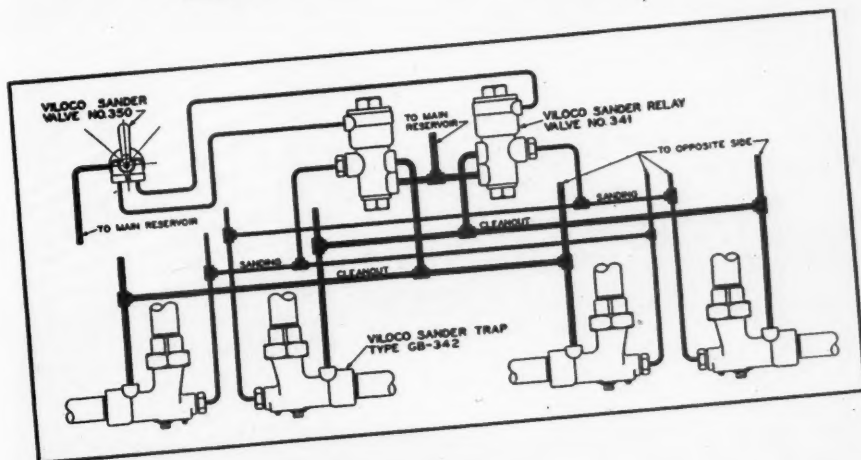
Viloco Relay Valve No. 341

The Viloco No. 341 Relay Valve is constructed to provide a clean-out blast, of a predetermined interval, before and after each sanding operation. A more efficient clean-out is obtained through the use of a ball check arrangement. This new feature prevents delivery of sand while clean-out air is flowing, thus, overcoming excessive cutting of traps and piping, and at the same time conserving the sand supply.



Viloco Sander Trap Type GB-342

The Type GB-342 is made with a horizontal discharge as illustrated, and is provided with a clean-out nozzle. The sander nozzle which controls delivery of sand is fixed and cannot be altered promiscuously. Any alteration in delivery requirements is simplified by applying a longer or shorter nozzle. A check valve with composition gasket prevents back pressure from blowing sand into the air line. If the installation requires angle discharge the Type GA-343 trap should be specified.



Piping Diagram

The diagram shown above is one of the many methods of installing the Viloco Diesel Sander Equipment. Diagram can be furnished to meet your requirements.



Viloco Sander Valve No. 350

The Operating Valve is compact and simple in construction. Its small size permits location within easy reach of the engine men. This valve is connected to operating cylinder of Relay Valves.

VILOCO RAILWAY EQUIPMENT CO.

332 SOUTH MICHIGAN AVENUE • CHICAGO

Now in ITS 9th YEAR OVER A MILLION AND A HALF MILES OF DEPENDABLE SERVICE

That's the record of the Boston and Maine's Streamliner... another proof that Hyatt is the ideal anti-friction bearing for modern high-speed railroad service. Write for information on passenger and freight applications. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

**HYATT ROLLER BEARING
RAILROAD JOURNAL BOXES**



HYATT BEARINGS DIVISION OF **GENERAL MOTORS**

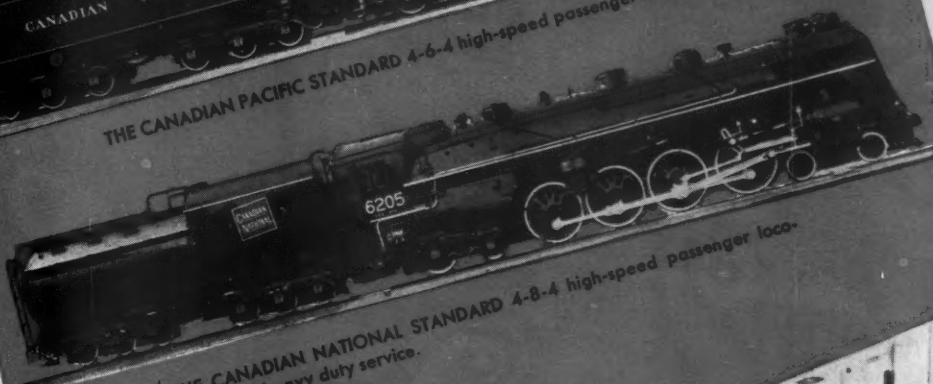


CANADIAN

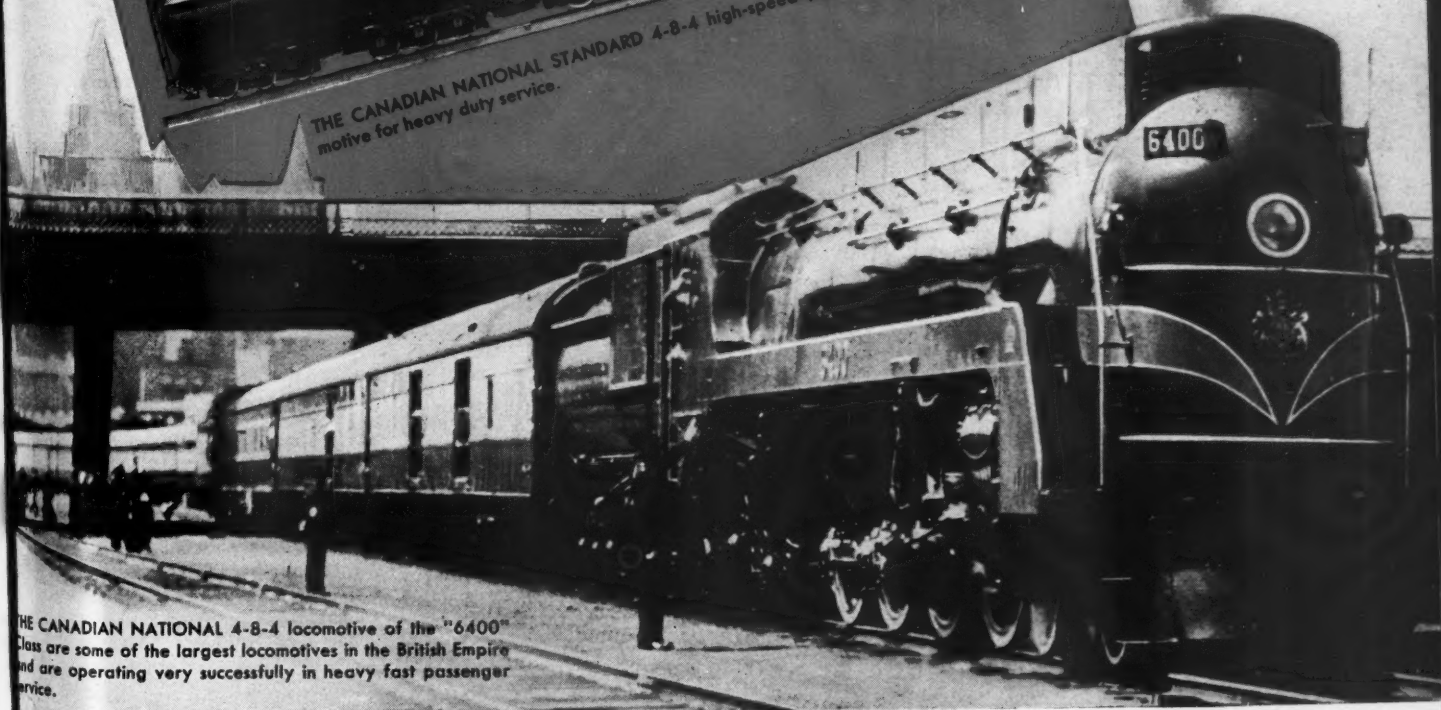
HIGH-SPEED PASSENGER POWER



THE CANADIAN PACIFIC STANDARD 4-6-4 high-speed passenger locomotive.



THE CANADIAN NATIONAL STANDARD 4-8-4 high-speed passenger locomotive for heavy duty service.

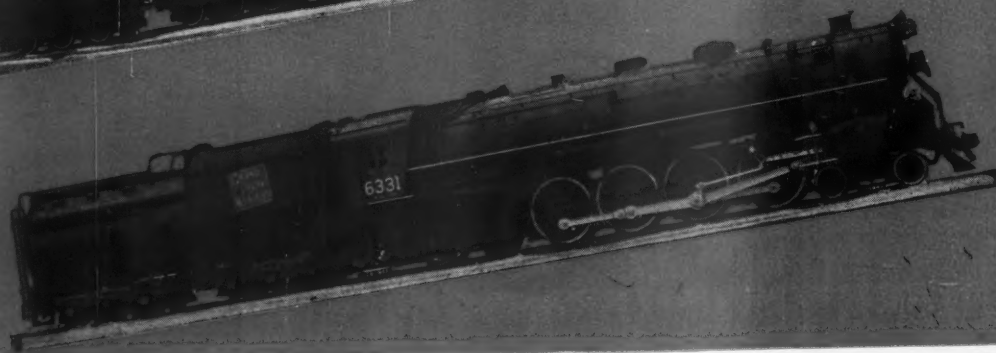
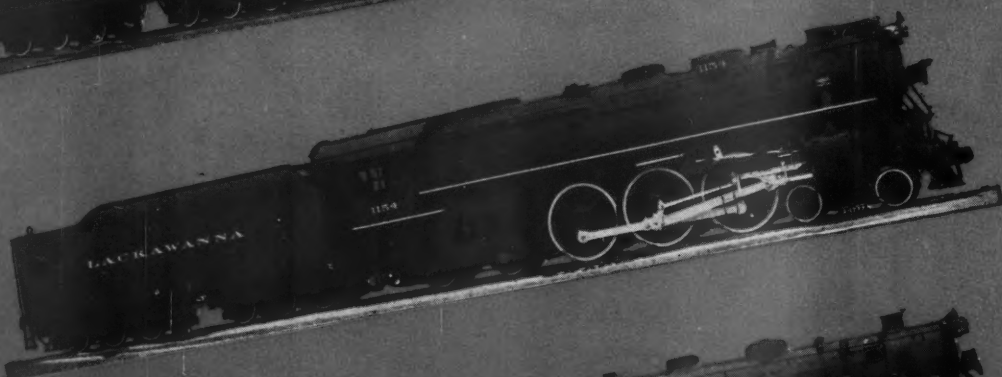


THE CANADIAN NATIONAL 4-8-4 locomotive of the "6400" Class are some of the largest locomotives in the British Empire and are operating very successfully in heavy fast passenger service.

MONTREAL LOCOMOTIVE WORKS LIMITED
MONTREAL CANADA



PASSENGER POWER



AMERICAN LOCOMOTIVE COMPANY

with Speed and Dependability ... VITAL TO THE WAR EFFORT



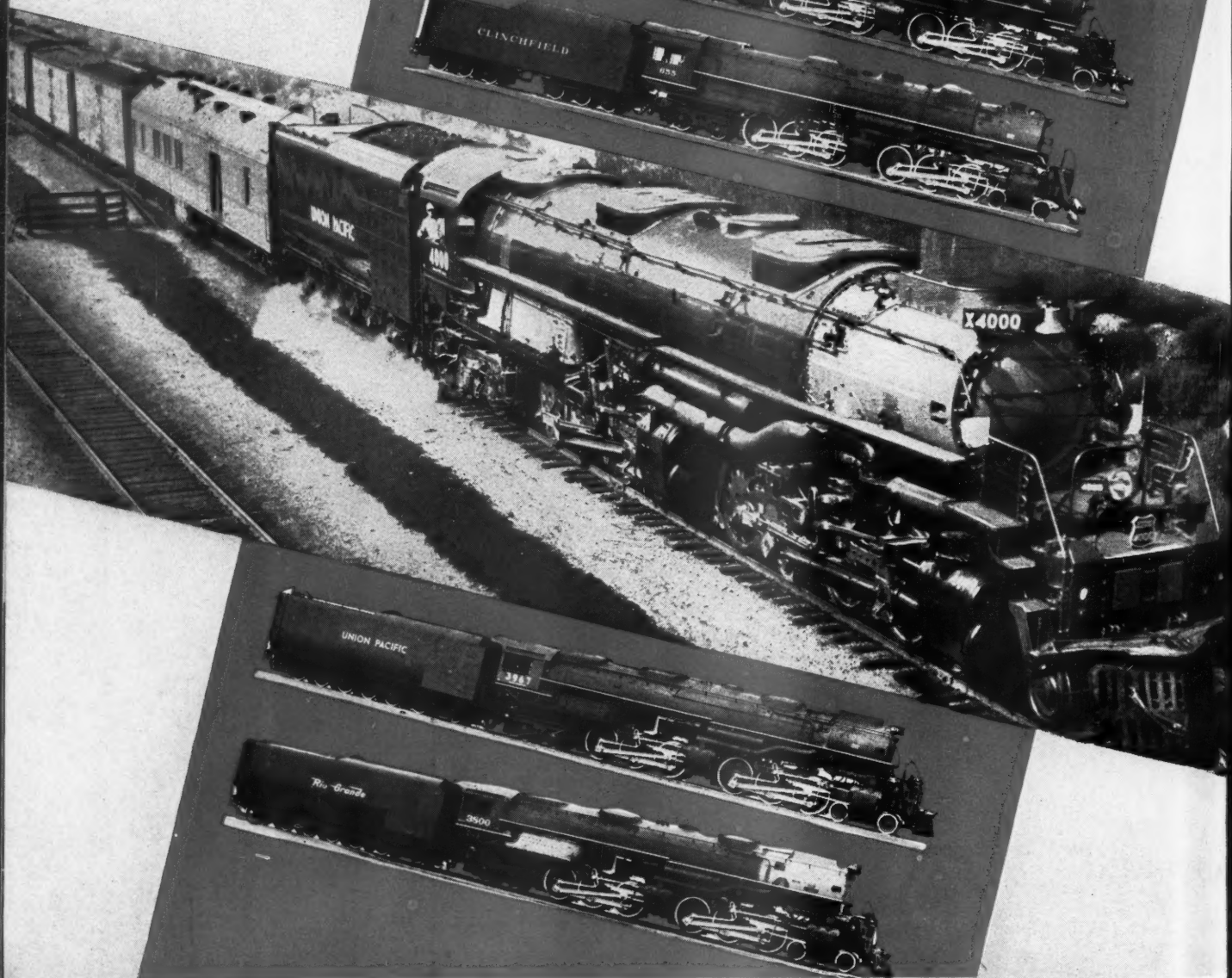
In the first seven months of this year, revenue passengers carried one mile by the railroads totaled over 47 billion — the heaviest passenger traffic on record and more than double the traffic in the comparable 1942 period. Powerful steam locomotives of proven design are in large measure responsible for this excellent showing. Dependable modern steam locomotives "Keep 'em Rolling."



36 CHURCH STREET NEW YORK N.Y.

POWERFUL LOCOMOTIVES FOR FAST FREIGHT SERVICE

Not only railway passenger, but freight service too, is making history in aiding the war effort. And here again modern steam locomotives of proven design Keep 'em Rolling.



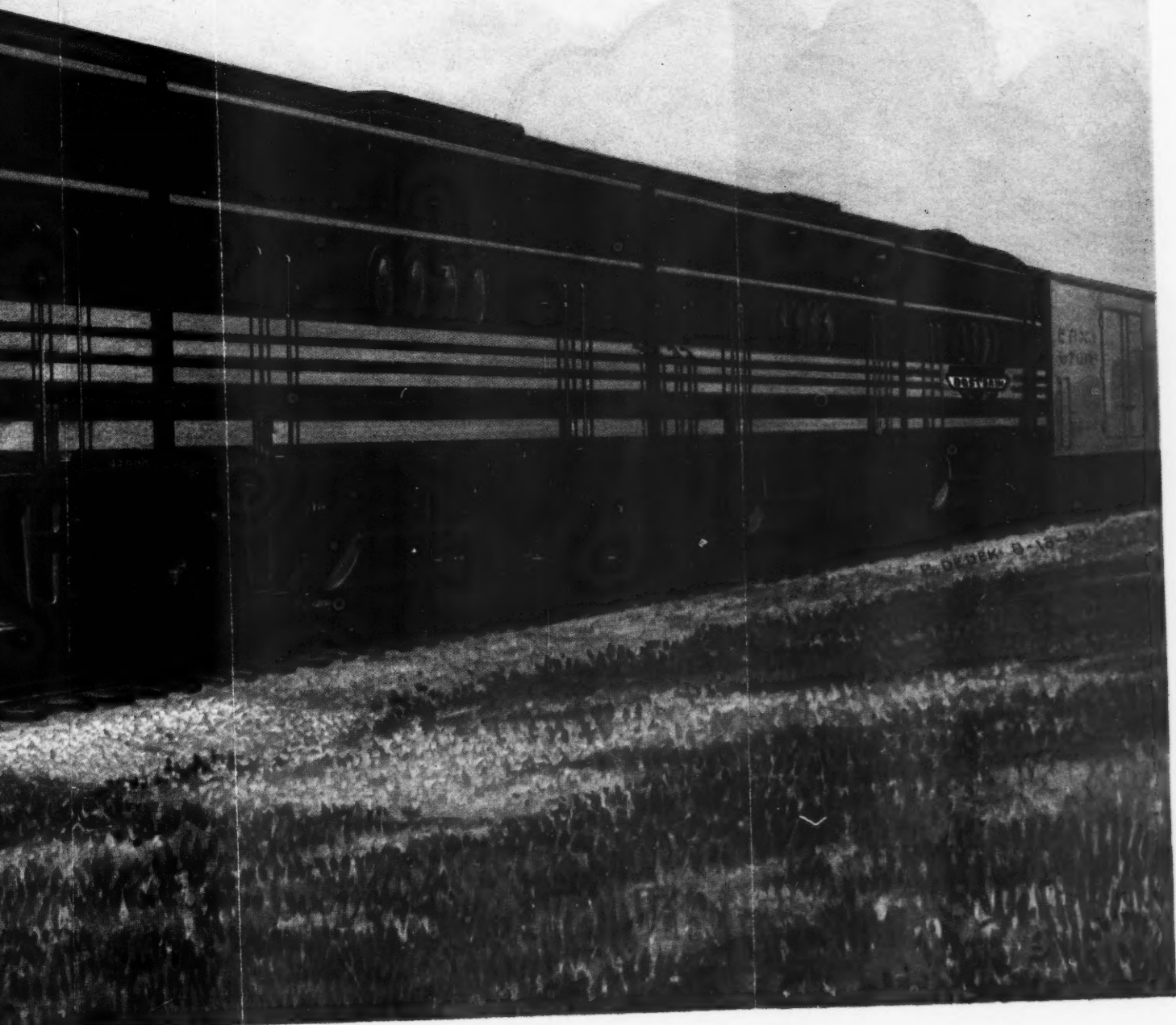
AMERICAN LOCOMOTIVE COMPANY
30 CHURCH STREET NEW YORK N.Y.



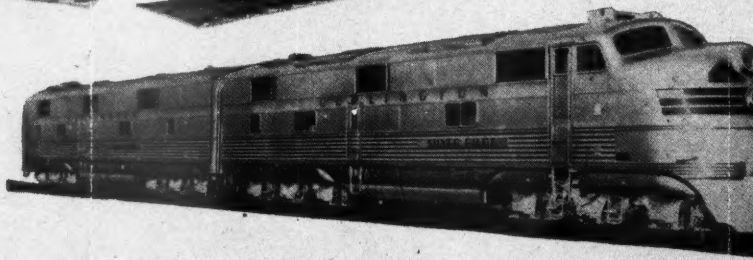
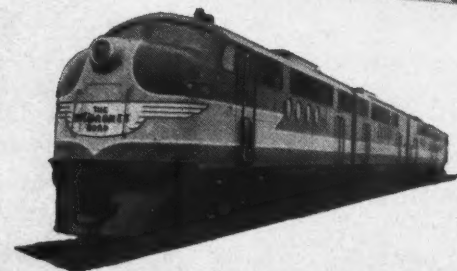
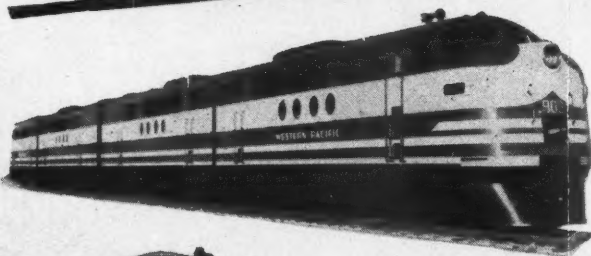
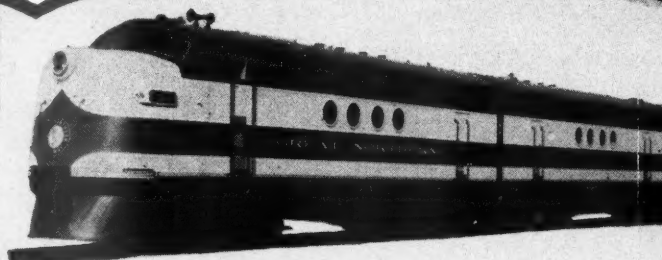
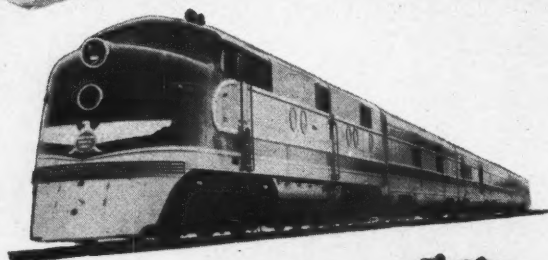
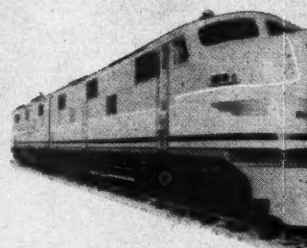
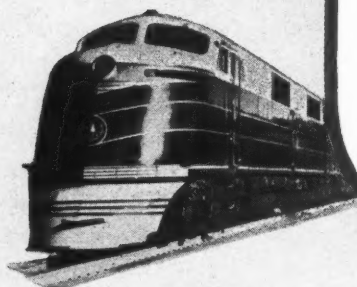
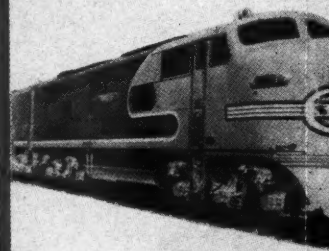
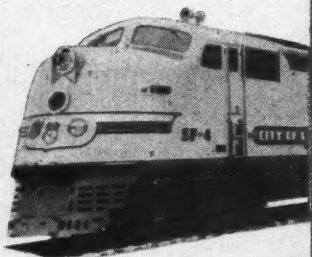
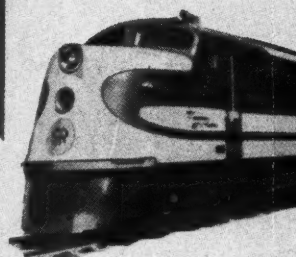
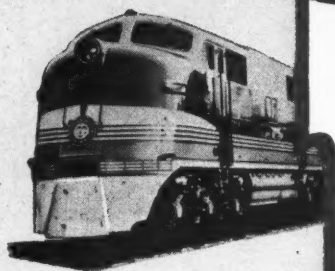
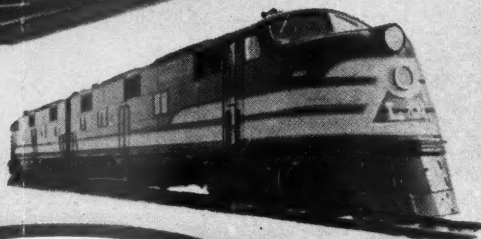
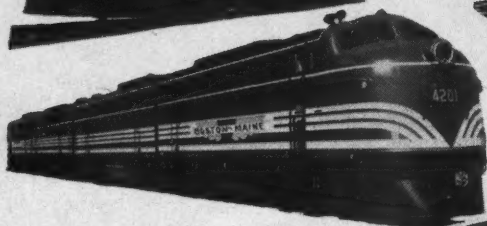
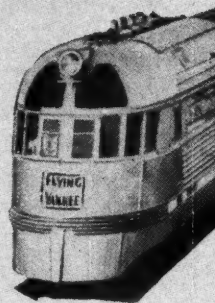
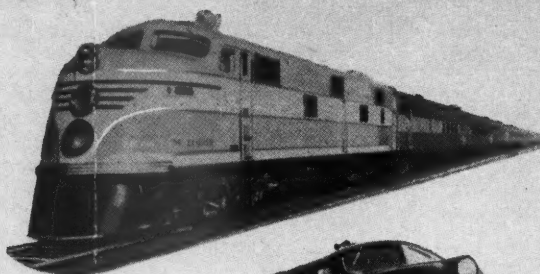
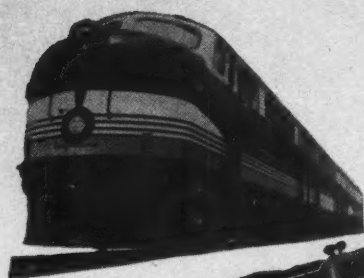
5400 H.P. DIESEL FREIGHT LOCOMOTIVE . . . DESIGNED AND BUILT BY ELE



DESIGNED AND BUILT BY ELECTRO-MOTIVE DIVISION . . . GENERAL MO



AL MOTORS CORPORATION . . . LA GRANGE, ILLINOIS, U. S. A.



Setting the Post-war
RAIL
TRANSPORTATION
Pattern



ELECTRO-MOTIVE DIVISION
GENERAL MOTORS CORPORATION
LA GRANGE, ILLINOIS, U. S. A.

GENERAL MOTORS
LOCO. MOTIVES



Mainline Operation

Farsighted operating officials continue to order Diesel locomotives to rehabilitate war worn motive power pools, in preparation for the heavy post-war job. For the unprecedented loads of wartime have thrown the advantages of General Motors Diesel Locomotives into high relief, such advantages as:

Power for hauling greater tonnage and reducing or eliminating helper service...

Speed for faster schedules...

Flexibility for meeting varying traffic conditions...

High availability with minimum "time-outs" for servicing and repairs...

Economy in lower fuel costs, elimination of expensive supporting services, lower track maintenance, fewer fuel and water stops which speeds up schedules, smoother starts and stops resulting in greater protection to cars and lading and greater comfort to passengers...

GM Diesel Power has very definitely proved its superiority in all classes of service. The full potential savings which follow the complete Dieselizeation of an entire railroad, or section of railroad, can now be realized. Expensive supporting services which are not required for Diesel operation can now be gradually reduced and finally eliminated—damage and repairs to track and bridge structures will be materially reduced—and fewer locomotives will be required to meet the heavy traffic demands of the post-war era.

GENERAL MOTORS
LOCOMOTIVES



In Yards and Terminals

Time and tonnage gains in mainline operations can be quickly nullified by congestions in yards and terminals. GM Diesel switchers, with their proved ability to keep yards clear with no "bottlenecks", and with outstanding economies, become the perfect complement to GM Diesel road power. Designed for smooth starting and stopping, GM Diesel switchers provide maximum protection to equipment and lading and comfort to passengers.

**ELECTRO-MOTIVE DIVISION
GENERAL MOTORS CORPORATION
LA GRANGE, ILLINOIS, U. S. A.**

GENERAL MOTORS
LOCOMOTIVES



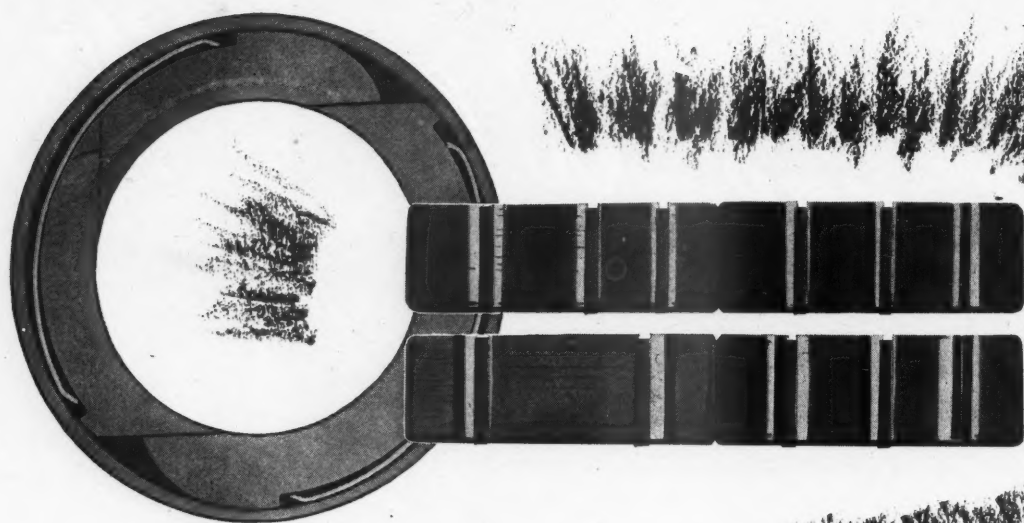
Sure, it's easy!

Is it easy to make fighting steels . . . easy to work long hours without sacrificing quality . . . easy to break tonnage records when every heat must be rigidly true to specifications? Sure, it's easy! But, it takes a life-time of living, working and thinking Steel to get ready to do the job. It takes a background of experience, like the 117 years that goes into the making of "A.W." Quality Steels. If you are engaged in war production and have an Alloy Steel problem, we will be pleased to serve you.

ALAN WOOD STEEL COMPANY

MAIN OFFICE AND MILLS: CONSHOHOCKEN, PENNSYLVANIA : SINCE 1826. District Offices and Representatives: Philadelphia, New York, Boston, Atlanta, Buffalo, Chicago, Cincinnati, Cleveland, Denver, Detroit, Houston, St. Paul, New Orleans, Pittsburgh, Roanoke, Sanford, N.C., St. Louis, Los Angeles, San Francisco, Seattle, Montreal.

Vital to Victory . . . get in the SCRAP



SERVICE ... in the Major Theatres of War

NOBODY actually pinned any campaign ribbons on P-M Metallic Packing! That's just our way of telling you how mighty proud we are that our product is serving America's armies, and America's allies in every major theatre of war . . . packing the piston rods and valve stems on many of the locomotives in our nation's overseas transportation system.

The Transportation Corps of the U. S. Army . . . made up of experienced American railroad men . . . are showing the world the American way to get things

done. In days, instead of months, they have restored many vital supply lines . . . lines which the enemy thought were completely put out of action.

The war has brought added responsibilities to the Paxton-Mitchell plants. They are humming with work! Regular railroad business has been greatly increased because the railroads themselves are doing a tremendous job and using more materials. We are proud to be able to handle that, plus large Army, Navy and Maritime Commission contracts.

PAXTON-MITCHELL COMPANY

2614 Martha Street

Omaha 5, Nebraska

P-M METALLIC ROD PACKING

P-M IRON AND BRONZE CASTINGS

P-M METALLIC PACKING
... the Packing that Packs

for **THIS** battle, G.H.Q.

★ Here's how you—yes, **YOU**—can carry out a smashing "pincer movement" against the Axis. Swing in on one flank with increased production of war goods! Drive in on the other with redoubled purchases of War Bonds through your Pay-Roll Savings Plan!

You're an officer in both of these drives. Your personal leadership is equally vital to both. But have you followed the progress of your Pay-Roll Savings Plan as closely as you have your production?

Do you know about the new Treasury Department quotas for the current Pay-Roll Allotment Drive? *Quotas running about 50% above the former figures?* You see, these new quotas are based on the fact that the armed forces need more money than ever to win the war, while the average worker has more money than ever before to spend. Particularly so, on a *family income* basis—since in so many families several members are working, now.

Remember, the bond charts of today are the sales curves of tomorrow! Not only will these War Bonds implement our victory—they'll guard against inflation, and they'll furnish billions of dollars of purchasing power to help American business re-establish itself in the markets of peace.

So get this new family income plan working at once. Your local War Finance Committee will give you all the details of the new plan. Act today!



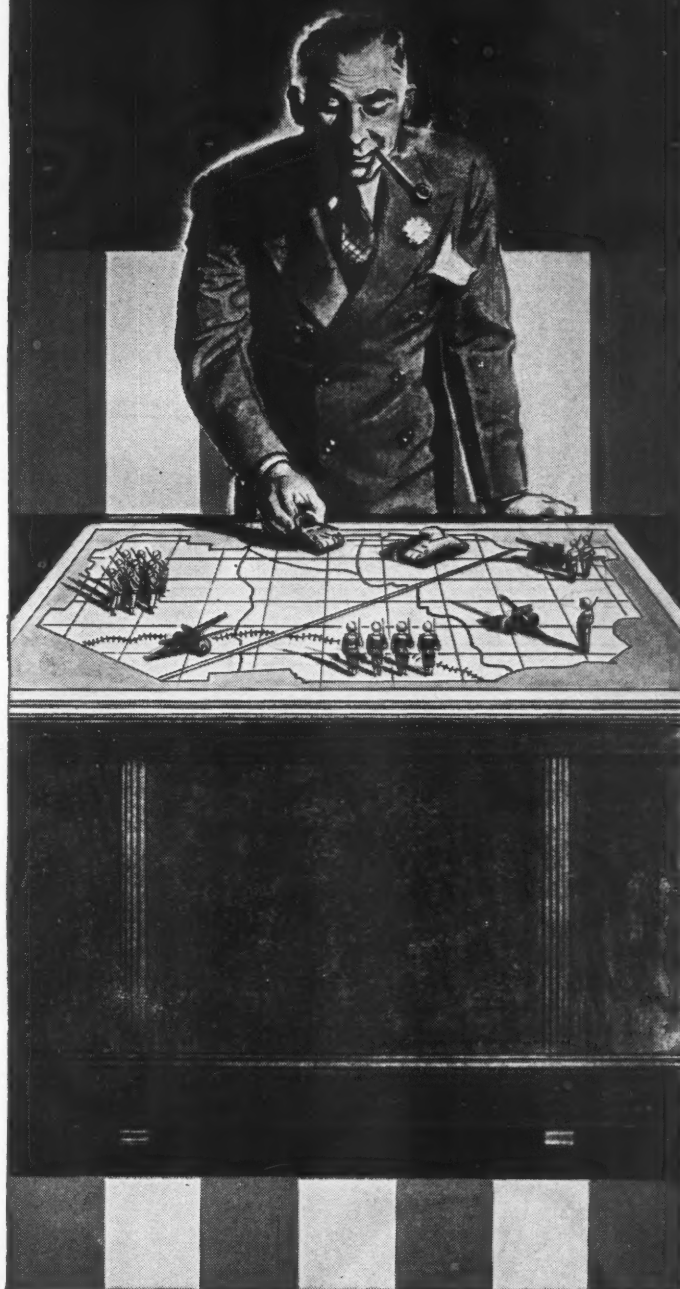
This advertisement prepared under the auspices of the War Advertising Council and the U. S. Treasury Department.

LET'S KEEP ON

This Space is a Contribution to America's All-Out War Effort by

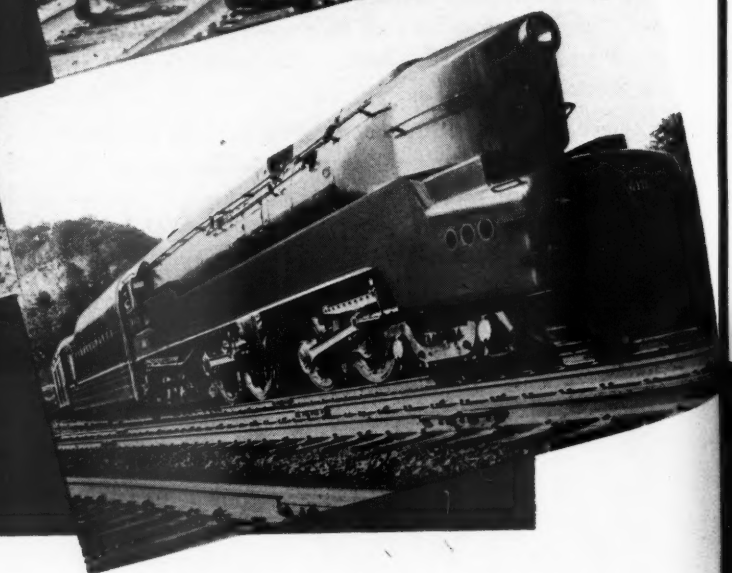
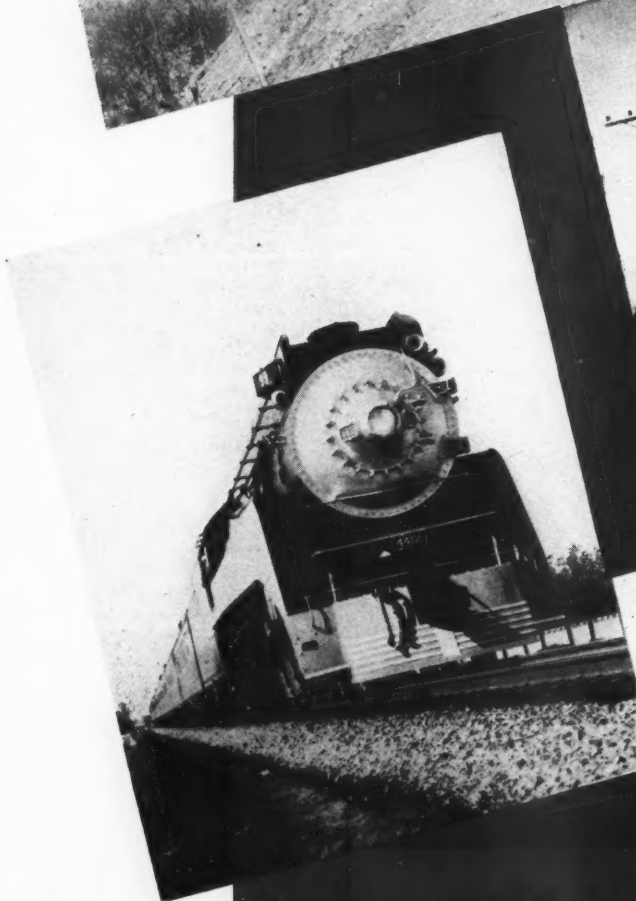
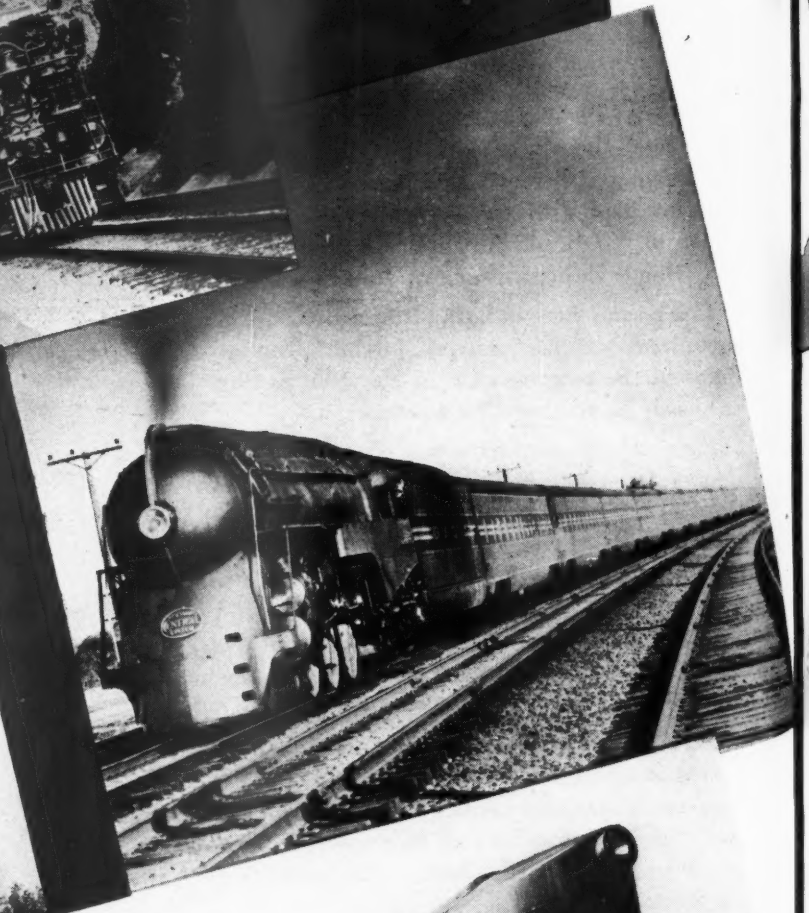
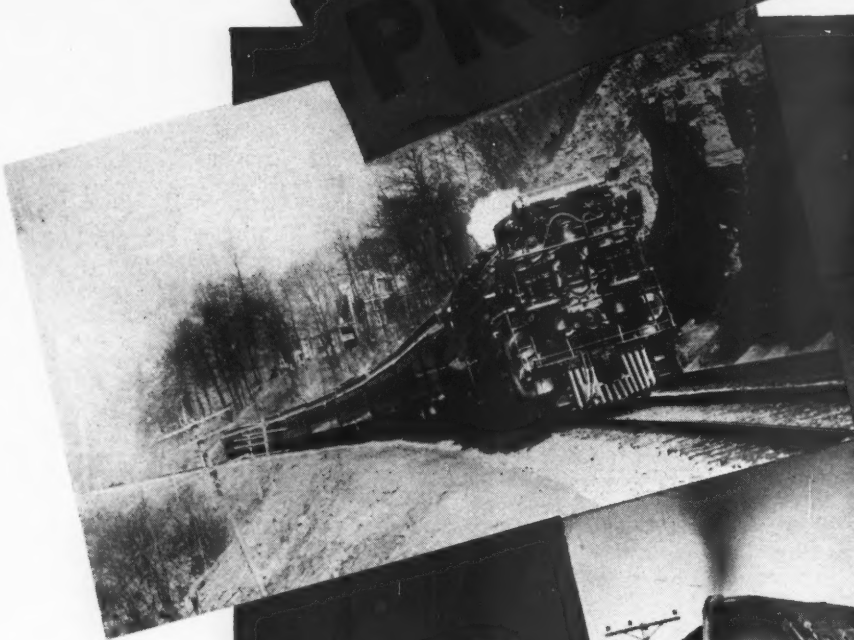
RAILWAY AGE

is at **YOUR** own desk!



Backing the Attack!

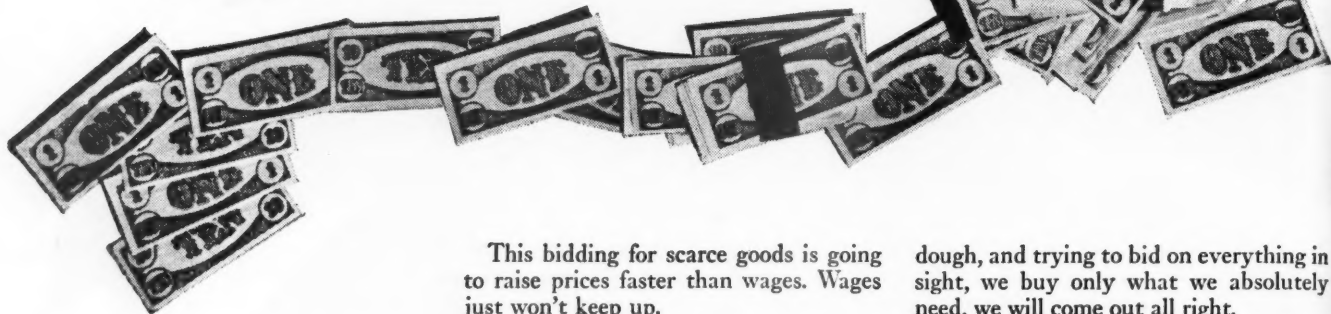
For Profit Paying





LANNERY BOLT COMPANY
DOVERVILLE, PENNSYLVANIA

IF YOU'RE MAKING MORE MONEY ...WATCH OUT!



WE WANT TO WARN YOU, before you read this page, that you've got to use your head to understand it.

We also want to warn you that—if you don't bother to read it carefully enough to understand it—you may wake up after this war as poor as a church mouse.

This year Americans are going to make—minus taxes—125 billion dollars.



But this year, we civilians are not going to have 125 billion dollars' worth of goods to spend this on. We're only going to have 80 billion dollars' worth. The rest of our goods are being used to fight the war.

That leaves 45 billion dollars' worth of money burning in our jeans.

Well, we can do 2 things with this 45 billion dollars. One will make us all poor after the war. The other way will make us decently prosperous.

This way the 45 billion dollars will make us poor

If each of us should take his share of this 45 billion dollars (which averages approximately \$330 per person) and hustle out to buy all he could with it—what would happen is what happens at an auction where every farmer there wants a horse that's up for sale.

If we tried to buy all we wanted, we would bid the prices of things up and up and up. Instead of paying \$10 for a dress we're going to pay \$15. Instead of \$5 for a pair of shoes we're going to pay \$8.

This bidding for scarce goods is going to raise prices faster than wages. Wages just won't keep up.

So what will people do?

U. S. workers will ask for more money. Since labor is scarce, a lot of them will get it. Then farmers and business men who



feel the pinch are going to ask more money for their goods.

And prices will go *still higher*. And the majority of us will be in that same old spot again—only worse.

This is what is known as Inflation.

Our government is doing a lot of things to keep prices down . . . rationing the scarcest goods, putting ceiling prices on things, stabilizing wages, increasing taxes.



But the government can't do the *whole* job. So let's see what *we* can do about it.

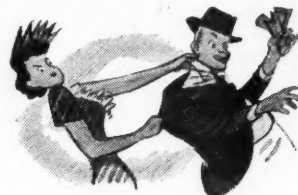
This way the 45 billion dollars will make us prosperous

If, instead of running out with our extra

dough, and trying to bid on everything in sight, we buy only what we absolutely need, we will come out all right.

If, for instance, we put this money into (1) Taxes; (2) War Bonds; (3) Paying off old debts; (4) Life Insurance; and (5) The Bank, we don't bid up the prices of goods at all. And if besides doing this we (6) refuse to pay more than the ceiling prices; and (7) ask no more for what we have to sell—no more in wages, no more for goods—*prices stay where they are now*.

And we pile up a bank account. We have our family protected in case we die. We have War Bonds that'll make the down payment on a new house after the war, or help us retire some day. And we don't have taxes after the war that practically strangle us.



Maybe, doing this sounds as if it isn't fun. But being shot at up at the front isn't fun, either. You have a duty to those soldiers as well as to yourself. You *can't* let the money that's burning a hole in your pocket start setting the country on fire.

★ ★ ★

This advertisement, prepared by the War Advertising Council, is contributed by this Magazine in co-operation with the Magazine Publishers of America.

KEEP PRICES DOWN!

Use it up
Wear it out
Make it do
Or do without



"Modern Transportation
Uses Pittsburgh Steel."



A Prediction... TRAINS OF TOMORROW will roll on Pittsburgh TUBULAR Axles!

Railway transportation was on the threshold of revolutionary progress when war struck. Many improvements continue to be planned and some are being carried forward toward realization . . . fore-runners of the stepped-up tempo to come.

Advances in locomotive, passenger and freight car design will undoubtedly involve a wide application of the Pittsburgh TUBULAR Railway Axle. This remarkable engineering achievement, a successful Tubular Axle having full approval of the Association of American Railroads, is not just a laboratory or pilot plant product. It is a production *reality*, right now!

Technical folks talk about it in terms of increased fatigue strength; interchangeability with solid axles; increased loading capacity; higher safety factors; less

unsprung weight; decreased rail hammer; reduced maintenance cost . . . and so on.

But those who merely travel and ship their products on the railroads will be satisfied to know that there's a smoother, safer, faster, better ride coming . . . when "trains of tomorrow" roll on Pittsburgh TUBULAR Railway Axles. Literature is available on request.

An entire new building houses the massive, specially engineered, straight-line production plant which manufactures Pittsburgh TUBULAR Railway Axles.



Railway Axle Division

PITTSBURGH STEEL COMPANY

Grant Building  Pittsburgh, Pa.

On the New Power...

FOR THE NEW YORK CENTRAL

THE 25 new 4-8-2 type locomotives built by Lima for the New York Central are designed for dual service. This means intensive operation and high monthly mileage.

No factor is more important to modern operating conditions than the quality of the brick arches—every time a locomotive is tied up for renewal of arch brick it costs at least 500 revenue miles in addition to the cost of replacement.

It is significant that this new power as well as all other locomotives on the New York Central are equipped with GENERAL REFRACTORIES Arch Brick. Long service is the obvious conclusion.

Wt. Total Engine—397,500
Boiler Pressure—250 lb.
Dia. Driving Wheels—72"
Grate Area—75.3 sq. ft.



GENERAL REFRACTORIES COMPANY

Philadelphia

RAILWAY DEPARTMENT

Penna.

MULTI-VENT

Means Comfort



The last step in air conditioning—the delivery of tempered air into the car interior—is the determining factor in passenger comfort. With Multi-Vent you get the ideal of air conditioning comfort, the maintenance of uniform temperatures and uniform air distribution without draft, whether the delivery is cooled, warmed, or outside fresh air. Multi-Vent is equally adapted to new or reconditioned equipment, and is proving its value on the finest passenger equipment built in recent years. Are you familiar with all the advantages of Multi-Vent? Complete information will be sent upon request.

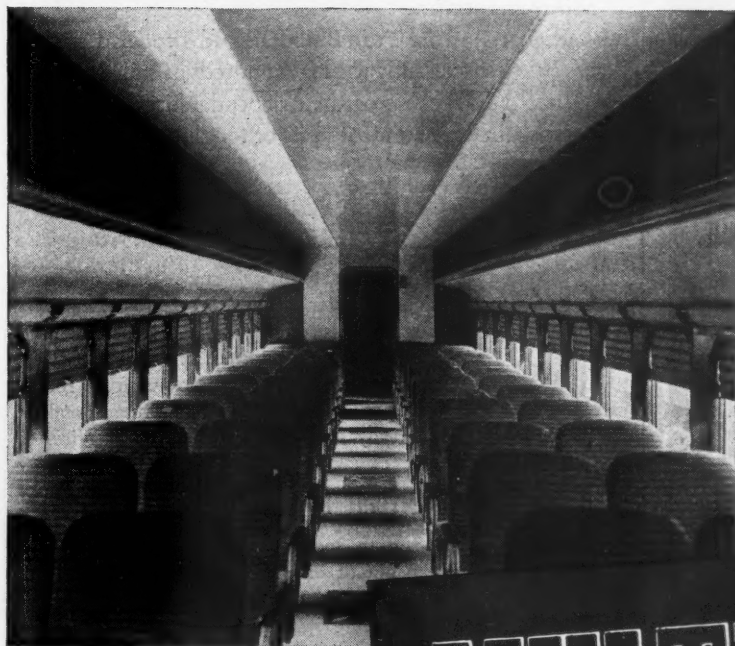
THE PYLE-NATIONAL COMPANY
1334-58 North Kostner Avenue • Chicago, Illinois

Offices: New York, Baltimore, Pittsburgh, St. Louis,
St. Paul, San Francisco

Export Department: International Railway Supply Co.,
New York

Canadian Agents: The Holden Co., Ltd., Montreal

Multi-Vent research is being continued,
assuring that air distribution methods
will be abreast of all other developments
when passenger equipment is again
produced.

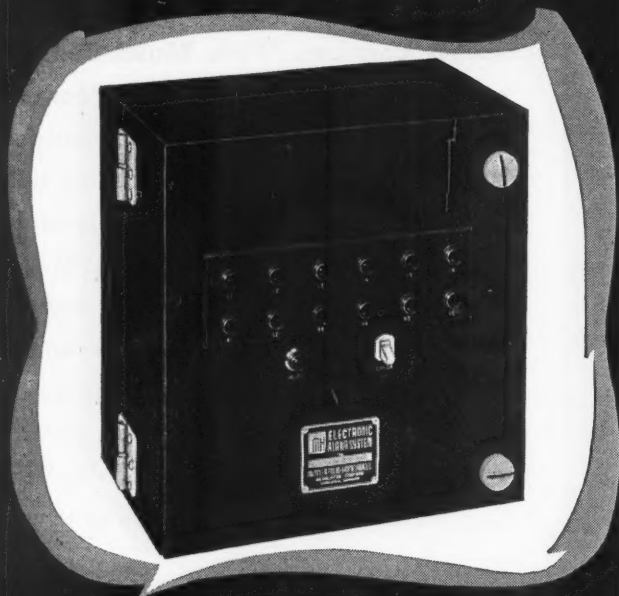


Interior of coach and auxiliary diner
of the Chicago, Milwaukee,
St. Paul & Pacific, built in company
shops in 1942.

MULTI-VENT

AIR DISTRIBUTION

AN **M-H** *Electronic*
ALARM SYSTEM
 FOR DIESEL LOCOMOTIVE
 JOURNAL BOXES

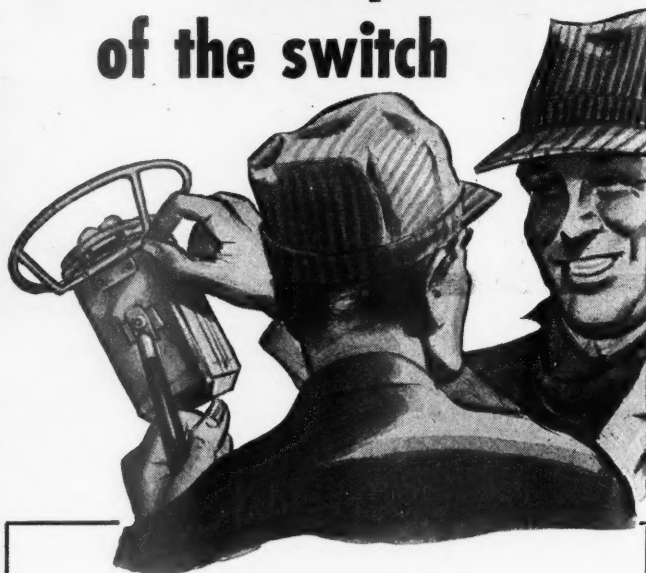


THIS new M-H Electronic Journal Alarm System automatically measures and checks each individual journal box temperature while the train is in motion. When the temperature of any journal box reaches the pre-determined danger level, an alarm sounds so the trouble can be corrected before serious damage results. The alarm point may be set at any temperature, and each journal has its own individual light so that the troublesome box may be immediately located. The system is simple, compact, has only one moving part and is easily and quickly installed. Road tests conducted for more than a year prove its accuracy and dependability. This system will lend itself to many other railway applications. Our engineers will gladly work with you on your own individual problems. Write for complete information. Minneapolis-Honeywell Regulator Co., 2834 Fourth Avenue South, Minneapolis, Minn.



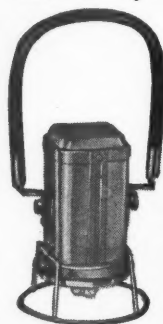
MINNEAPOLIS-HONEYWELL
 RAILWAY CAR *Control* SYSTEMS

Look Bill...
 with just a flick
 of the switch



You get new light instantly, as powerful as before. Just flick the switch . . . and presto . . . the second bulb *slips into position* and lights instantly. The beam is where you need it. That's what I call real dependability and service.

Right...Justrite Twin Bulb Railroad Type Lanterns are being successfully used by hundreds of railroaders . . . not only because of their dependability, but also because they are built for years of tough rugged wear.

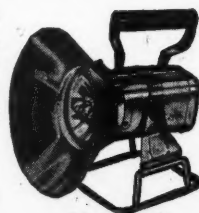


**TRAINMEN'S FAVORITE
 RAILROAD TYPE No. 40**

Power to cut through smoke and fog . . . signal full length of 110 car drag . . . spot car numbers . . . give light to sides from same bulb at same time. These are a few of the jobs Justrite lanterns perform for America's railroads. It's tough, rugged and all ready for years of dependable service.

INSPECTOR'S LANTERN FOR DAYTIME EFFICIENCY

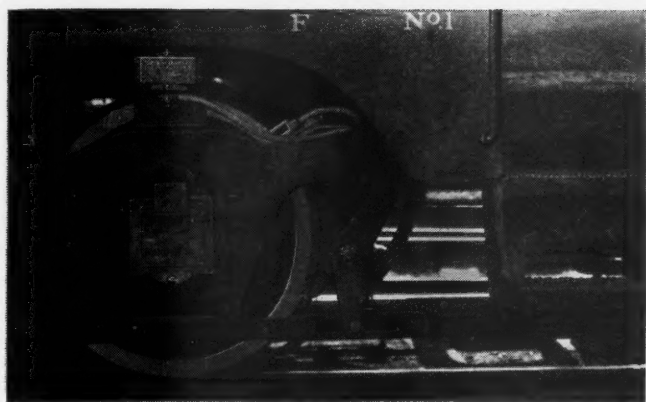
Clear, powerful beam to speed the work of rolling 'em out of division points in shape and on time. Easily carried by fixed "spade-grip," or focused from movable stand for fullest convenience.



JUSTRITE MANUFACTURING CO.
 2086 N. Southport Ave., Chicago, Ill.

Model 46-S

JUSTRITE *Safety Products*
 SAFETY CANS • FILLING CANS • OILY WASTE CANS
 APPROVED SAFETY ELECTRIC LANTERNS



SWANSON FLANGE OILERS

New Improved Type—100% Automatic

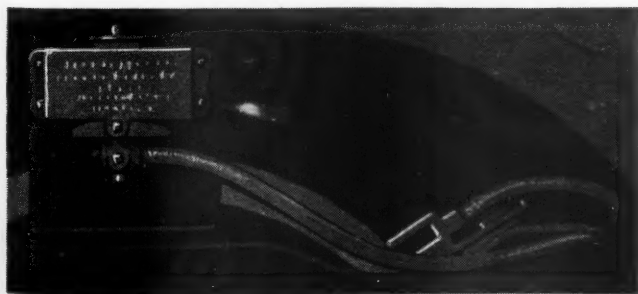
WILL SAVE TONS OF STEEL
ON TIRES AND RAILS. REDUCE
THE NUMBER OF DERAILMENTS

The Valve opens when the engine is in motion and automatically closes when the engine is at rest. The shoe wipes the oil on the flange and prevents spreading on tread of wheel.

**Thousands of Swanson Oilers
in use on over 70 Roads.**
We manufacture Flange Oilers suitable for all types of Steam and Diesel Locomotives.

Write Today for Full Particulars

THE SWANSON COMPANY
1644 Farragut Ave. Chicago 40, Ill.



Swanson Flange Oiler Installed on Diesel Switching Locomotive

November 20, 1943



For War— and for Post War

RIGHT now Ajax Cups and dispensers are helping Railroads wet the whistles of thirsty military and naval men and women. Come the peace, Ajax Cups and Dispensers can help Railroads compete for civilian traffic through their convenience and attractiveness to the user — and through their economy and efficiency for the railroad. Standard dispenser and cup are illustrated. Recessed type dispenser also available. Write nearest office for samples, specifications and prices.

LOGAN DRINKING CUP CO.
68 Prescott St., Worcester, Mass.

PACIFIC COAST ENVELOPE CO.
416 Second St., San Francisco
Divisions of United States Envelope Company

★ **AJAX** ★
CUPS

THE DERIVATION OF

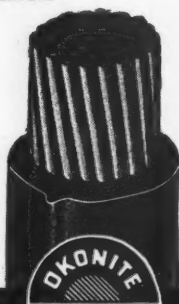
OKONITE

A signal flashed by telegraphers indicating message got through.

- To aid in pronunciation.

A suffix used in the early days (as in "vulcanite") meaning "insulation"

OKONITE means
the standard for
insulated wires
and cables.



3224

THE OKONITE COMPANY

Passaic, New Jersey • Offices in Principal Cities

Manufacturers of Insulated Wires
and Cables since 1878

FITZGERALD GASKETS

SINCE
1906

THE COMPLETE LINE THAT COMPLETELY SATISFIES

*for All
Railway Purposes*

Gasket Craftsmen for 37 Years

Write for Information

• • • —

The Fitzgerald Manufacturing Company
Torrington, Conn.

Branches: Chicago, Ill. Los Angeles, Cal.
Canadian FITZGERALD Limited, Toronto



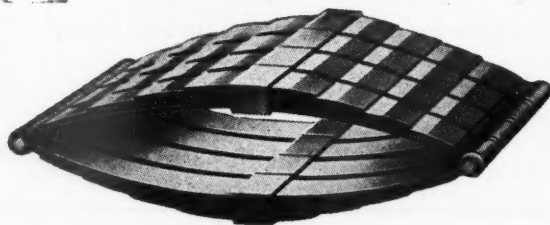
Ease of handling; unobstructed vision; self-stabilizing feature for handling loads at sides; always-in-gear design; and automatic braking in all crane operations . . . these and other advanced engineering features provide the SAFETY required to meet the exacting demands of the War effort. 2½, 5, and 10 ton capacities. Agents in all of the principal cities.

USERS: Union Pacific; Missouri Pacific; B & O; Chesapeake & Ohio; Pennsylvania; Canadian Pacific; Illinois Central; Southern Pacific; etc.

Krane-kar
FOR RAILROADS

SILENT HOIST WINCH & CRANE CO., 845 63RD ST., BROOKLYN, N.Y.

UNION SPRINGS



Are Easy Riding

MODERN passenger car trucks equipped with Union Spring and Manufacturing Company's equalizer and bolster springs eliminate shock and provide a steady vibrationless ride for passengers. Union Springs are manufactured to the most rigid specifications, that produce highest quality springs for all types of cars. Their use assures lower cost of operation and maintenance.

**UNION SPRING AND
MANUFACTURING CO.**
PITTSBURGH, PA.



BUCKEYE

6 and 8 wheel

Tender Trucks



Buckeye Six and Eight Wheel Tender Trucks

in Freight and Passenger Service

have demonstrated

OPERATING ECONOMIES

due to

Reduced Weight . . . Fewer Wearing Parts . . . Positive Equalization

THE BUCKEYE STEEL CASTINGS COMPANY

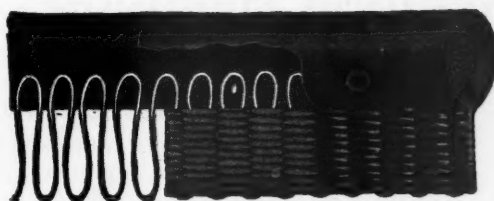
Manufacturers of Couplers, Truck Frames and Bolsters,
Draft Attachments and Tender Trucks

NEW YORK

COLUMBUS, OHIO

CHICAGO

INNER-SEAL



WEATHER WATERPROOF STRIPPING
KEEPS OUT SNOW • RAIN
DIRT • DRAFTS

APPLIED TO

BODY END DOORS

•
VESTIBULE SIDE DOORS

•
VESTIBULE TRAP DOORS

•
REFRIGERATOR CAR
DOORS

•
LOCOMOTIVE CLOSURES

•
WINDOWS

INNER-SEAL is particularly well adapted to railway service. It is strong, durable, efficient and is used by leading railroad operators and car builders throughout the United States.

INNER-SEAL is preferred because it is the only weather stripping with the necessary spring-wire feature which holds it firmly in place—tightly against any surface, smooth or rough, providing a waterproof seal.



BRIDGEPORT FABRICS, INC., BRIDGEPORT, CONN.

Established 1837



MULE-HIDE COLD PROCESS ROOFS GIVE MORE THAN PROTECTION THEY SAVE

Labor

No skilled labor required—any maintenance crew can do a safe, economical job.

Time

Precision made factory materials and simple application speed work-cut costs.

Money

No special equipment needed—lower application costs than other built-up roofs.

Maintenance

Simple and easy—just brush on Mule-Hide Nu-Life every 3 or 4 years.

All the Answers

in pictures and easy-to-understand drawings on how to apply the right Mule-Hide Cold Process Built-up Roof.



THE LENON COMPANY
4425 SOUTH OAKLEY AVENUE
CHICAGO • • • ILLINOIS

ASPHALT PAVERING WATERPROOFING SPECIALTIES ROOF COATINGS BUILT UP ROOFING

KING PRODUCTS

KING metallic packings for locomotive piston rods, valve stems and air pumps

KING air pump lubricators

KING sanders

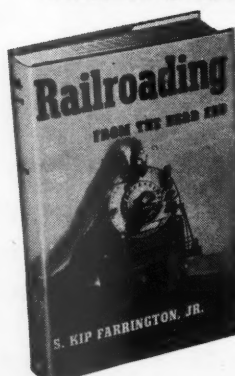
KING bell ringers

KING Red Top pressure indicator

THE U.S. METALLIC PACKING CO.
PHILADELPHIA, PENNSYLVANIA

Representatives in Canada
Jos. Robb & Co., Ltd., Montreal

Ideal Christmas Gift for Every Railroad Enthusiast



"An authentic and plausible book which every railroad enthusiast, amateur, professional and historian will consider a must on his shelves."

—LUCIUS BEEBE,
N. Y. Herald-Tribune

Illustrated \$3.50

RAILROADING FROM THE HEAD END

by S. Kip Farrington, Jr.

Introduction by Col. John A. Appleton, Chief
of the Transportation Corps, Rail Division

At your bookseller's, or order direct from
DOUBLEDAY, DORAN & Co. • Dept. R.A. 11, Garden City

TUCO PRODUCTS

TUCOLITH COMPOSITION FLOORING

A & B Types for long surface wear.
L W-37 or VIII for light weight sub
floor as base for cementing any
type floor covering.

TUCO TREATED CANVAS

For car roofs and cab curtains.

★ *Tuco Trap Doors*

★ *Tuco Eclipse Deck Sash Ratchets*

★ *Tuco Car Window Screens*

TUCO ROCKWOOL INSULATION

Special type of felted blanket with
flame-proof fabric stitched on both
sides for car insulation. Specify
Style M-2.

TUCO DOREX ODOR ADSORBERS

For Air-Conditioned Cars.

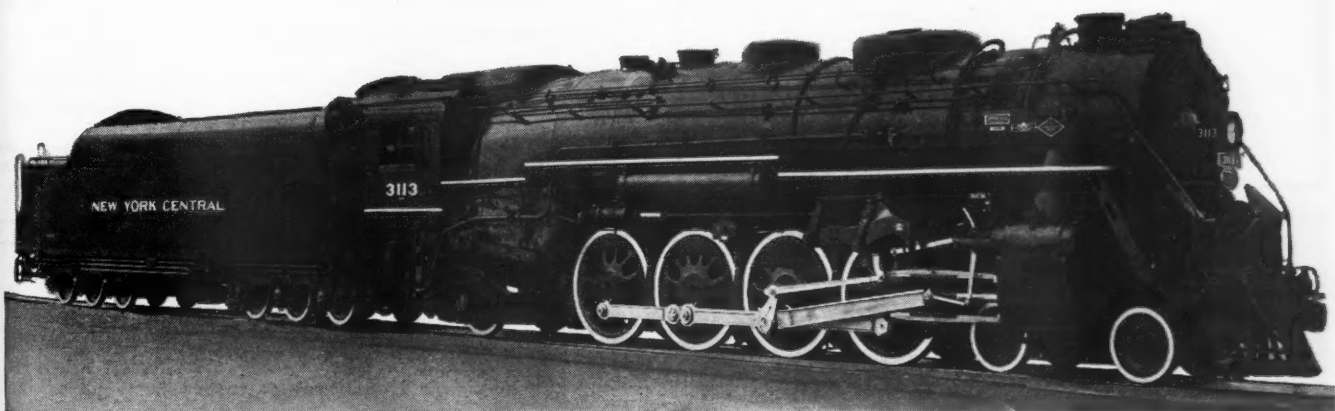
TUCO PRODUCTS CORPORATION

30 Church St., New York, N. Y.

122 S. Michigan Ave., Chicago, Ill.

BAKER

NEEDLE BEARING VALVE GEAR ON NEW N. Y. C. 4-8-2's



THE PILLIOD COMPANY

FACTORY, SWANTON, OHIO

30 Church Street, New York City

310 So. Michigan Ave., Chicago, Illinois

KERITE

Out of the experienced past, into the exciting present, KERITE wires and cables, through three-quarters of a century of successful service, continue as the standard by which engineering judgment measures insulating value.



THE KERITE CABLE COMPANY
100 WEST WASHINGTON, CHICAGO, ILL.

DUNER WATER CLOSETS FOR RAILWAY PASSENGER CARS

DEPENDABLE—SANITARY
ECONOMICAL

Duner Company
107 South Clinton St.
Chicago

DOLFINITE

The outstanding, all-inclusive,
time-tested line of

**PAINTS • CEMENTS
FILLERS • PRIMERS
AIR-DUST SEALER**

INTERIOR FINISHES FOR MODERN
PASSENGER CARS

Dolphin Paint and Varnish Company
900 CHAMPLAIN ST. TOLEDO, OHIO
Since 1863

HYMAN-MICHAELS COMPANY

Relaying Rails ★ ★ ★ Dismantling

Used railroad equipment—cars—locomotives
Freight Car Replacement Parts

Complete stocks of guaranteed used freight car parts carried on hand by us at all times. Located conveniently for shipment to any part of country. Write—Phone—Wire—when interested in used Rails, Equipment, Cars, Car or Track Dismantling, or Car Parts.

Main Office
122 SOUTH MICHIGAN AVENUE
CHICAGO, ILLINOIS

<i>Branches</i>		
New York	San Francisco	Houston
St. Louis	Los Angeles	Havana, Cuba
SERVICE	QUALITY	RELIABILITY



GOLD
VAPOR-STEAM-ELECTRIC
CAR HEATING
SPECIALTIES
COLD CAR HEATING & LIGHTING CO.
NEW YORK

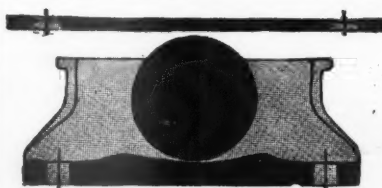
Pittsburgh Spring & Steel Co.

1417 Farmers Bank Building, Pittsburgh, Pa.

Makers of **SPRINGS** of Every Description
Elliptic and Spiral

Carbon, Vanadium, Silico-Manganese Steels
Licensed manufacturers under patents for
"Cell-Elliptic" groupings

Washington, D. C. 824 Union Trust Bldg.	New York 3723 Grand Central Terminal	Chicago 1401 Fisher Bldg.
--	---	------------------------------



**STUCKI
SIDE
BEARINGS**
Manufactured by
A. Stucki Co.
Oliver Bldg., Pittsburgh, Pa.
Canadian Representatives
The Holden Co., Ltd.
Montreal, Can.

Have You Changed Your Address?

Notice of change of address of subscribers should reach the office of *Railway Age*, 30 Church St., New York, ten days in advance to insure delivery of the following issue to new address. In sending notification of change always include the old address as well as the new.

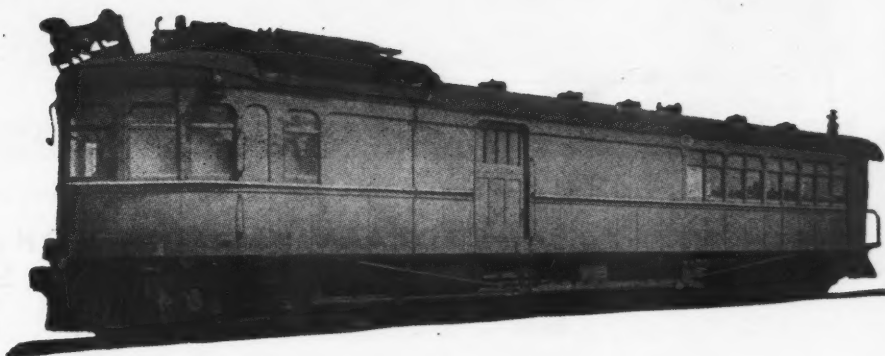
Name
Old Address
New Address
Position Company

SOLVE YOUR TRANSPORTATION PROBLEM WITH THESE

2— Passenger & Baggage Gas Electric Cars

May Dispense with
Locomotives Entirely

PRICED RIGHT
FOR QUICK SALE



Seating capacity 1 car 36 persons
" " 1 " 55 "

Baggage space 1 car —27' 2 $\frac{3}{8}$ "
" " 1 " —15' 8 $\frac{5}{8}$ "

Equipped with 2, 100 HP G. E. Motors and
1, 175 HP G. E. gasoline, type GM-16-Form C-3,
550 RPM, 4 cycle. Generator—1 continuous
current G. E., Type TD, Class 8—80 KW, 550
RPM, 133 Amp.

• Send for Illustrated Bulletin
IRON & STEEL PRODUCTS, INC.

38 Years' Experience

13470 S. Brainard Avenue Chicago, Illinois

"ANYTHING" containing IRON or STEEL"

DON'T BE

PENNY-WISE AND TON-FOOLISH ABOUT SCRAP

Run Your Scrap Program According to This Rule:

If it hasn't been used for three months and
if some one can't prove that it's going to be
used in the next three—sell it—or scrap it!
Scrap and used equipment dealers pay well
for useable machinery and materials.

It's easy to salve your salvage conscience by
turning in the junk you'd been meaning to
get rid of anyway. *But this is not enough!*

To end the shortage of heavy steel scrap
you've got to dig deeper. Mills are going to
need about 26,000,000 tons of purchased
scrap this year! To make sure that the men
we've sent to war will have the weapons they
need, you've got to get rid of every piece of
idle "slacker" metal in your plant. Sell it
—either as scrap or as second hand equip-
ment.

Can't Get Enough Copper

Shortest of all is copper, and officials say
this critical shortage will continue for the

duration. Copper refineries are not operat-
ing at full capacity . . . When they should be
running wide open! Who knows how long
that one scarcity may delay the final big
push?

Deduct Value From Your Income Tax

Remember . . . if the item you scrap still
appears on your books, it can be deducted.
Otherwise it cannot. This is a matter for
your accountant or attorney to decide. Even
if not deductible, don't hoard it. For used
machinery especially there's a big and con-
tinuing demand. *Somebody needs it—
badly!*

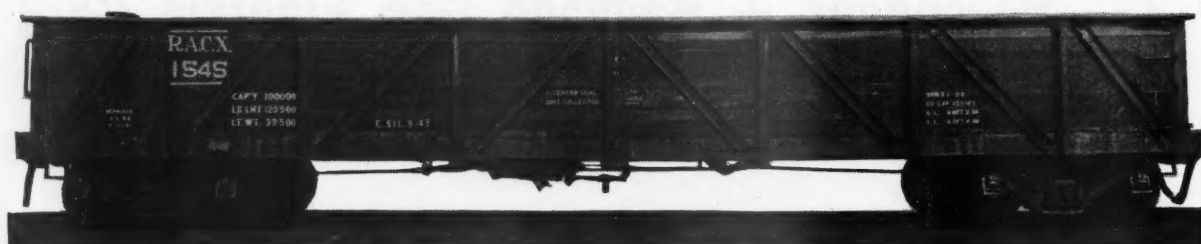
BUSINESS PRESS INDUSTRIAL SCRAP COMMITTEE

Room 1310, 50 Rockefeller Plaza, N. Y. C.

*If you have done a successful salvage job at
your plant, send details and pictures to this
magazine. Send for booklet—"Primer of In-
dustrial Scrap."*

FOR SALE 100 COMPOSITE, 50 TON, GONDOLA CARS

BUILT NEW 1928



Full steel underframe, steel stakes and braces, wood floor, ends and sides

GENERAL SPECIFICATIONS

	Inside	Outside
Length	42'0"	44'2"
Width	9'1"	10'4"
Height	4'0"	
Cubic Capacity	1533 cubic ft.	
Average Light Weight	39,200 pounds	

Couplers, 6"x8", Cast Steel Coupler Yokes, Cardwell Draft Gears, Trucks: Full "U" section Bettendorf type, with cast steel bolsters

Cars now being removed from revenue service, and do not require general repairs.

AVAILABLE FOR IMMEDIATE DELIVERY

WRITE, WIRE, OR 'PHONE for details regarding specifications, quotations, and inspection

RAILWAY ACCESSORIES COMPANY 4100 Carew Tower, Cincinnati, O.



FOR FAST ACCURATE fueling service



Fueling Systems

Always ready! That's why users like Bowser Fueling Systems for gas and diesel electric trains. Fueling is fast and convenient . . . measurement is accurate with every gallon recorded. To modernize your fueling service . . . consult Bowser, "the pioneer builder of metered fueling systems for trains, trucks and automobiles." Many sizes and types are at your service. To get started right . . . write Bowser, today!

BOWSER, INC.
Ft. Wayne, Ind.

MAKERS OF EQUIPMENT FOR RAILROAD LIQUIDS

CONSERVE

Shoes - Tires - Time!

-with our CENTRAL
DOWNTOWN LOCATION

HOTEL Mayfair

ST. LOUIS
FROM \$ 3.00

HELP ASSURE VICTORY

Buy War Bonds.
Comply cheerfully
with Rationing.
Save all scrap.
Avoid waste.

GET TOGETHER DEPARTMENT

RAILROAD EDUCATIONAL SERVICE

For 45 years the Railroad Department — International Correspondence Schools — has been training ambitious railroad men the technique of their work. Nearly 300 railroads have agreements with the International Correspondence Schools to instruct their employees who are interested in technical training at reduced rates.

Courses in:

Railroad Apprentice Training
Air Brakes
Locomotive Firemen
Locomotive Engineers
Car and Locomotive Shop Work
Traffic Management
General Transportation
Accounting—Rate Clerk
Maintenance of Way
Transportation Salesmanship
Signal Work
Telephony and Telegraphy

We Specialize in Railroad Apprentice Technical Training Courses Covering the Work Done by Each Craft.

Free Booklet on Request

INTERNATIONAL CORRESPONDENCE SCHOOLS

Railroad Department,
A. C. Drynan, Gen. Mgr.,
Box 8816 SCRANTON, PA.

FOR SALE

LOCOMOTIVES

4—114-Ton American, Type 2-8-0
2—78-Ton Baldwin, Type 0-6-0,
Side Tank
2—57-Ton Baldwin, Type 0-6-0
Saddle Tank

1—20-Ton Baldwin, Gas-Electric
1—20-Ton Vulcan, Gas-Electric

CARS

100—40-Ton Box Cars
40—30-Ton Box Cars
45—40-Ton Flat Cars
110—55-Ton Hopper Cars

1—Gas-Elec. Pass.-Baggage Car
1—Gas-Elec. Pass.-Baggage-Mail
Car
1—Gas-Elec. Baggage-Mail Car

WRITE WIRE PHONE

THOMAS F. CAREY CO., INC.

120 Liberty Street
New York 6, N. Y.
Telephone Barclay 7-1770

Educational Services for RAILROAD MEN

Maintenance of Way—
Mechanical—
Signal—
Operating—
Engineers and Firemen—
All Supervisors—

The Railway
Educational Bureau
Omaha, Nebraska

Railway Equipment and Accessories

We can furnish rails, spikes, bolts, locomotives, cranes and other railway material. Also 3500 pair of 50 lb. good used angle bars. Also sizes. Write for quotations.

SONKEN-GALAMBA CORP.
108 N. 2d St., Kansas City, Kan.

ARE THE CARS YOU WANT LISTED HERE?

50, Hopper, Double, 50-Ton
45, Hopper, Side-Discharge, 50-Ton
30, Ballast, Composite, 50-Ton
50, Box, 36-Ft., 40-Ton; Steel Ends
16, Refrigerator, 36-Ft., 30-Ton
50, Refrigerator, 40-Ft., 40-Ton
75, Gondola, Composite, 36-Ft. & 40-Ft., 40-Ton
2, Dump, Western, Automatic, 20-Yd., 40-Ton
6, Dump Magor Automatic, 25 Yd., 50-Ton
8, Dump, Western, Automatic, 27-Yd., 40-Ton
10, Dump, Western, Automatic, 27-Yd., 50-Ton
10, Dump, Western, Automatic, 30-Yd., 50-Ton
10, Koppel, Side Discharge, 24 Yd., 30-Ton
150, Tank, 8000-Gallon, 40 and 50-Ton

LOCOMOTIVES and PASSENGER CARS TOO!

IRON & STEEL PRODUCTS, Inc.

38 years' experience
13486 S. Brainard Ave.,
Chicago 33, Illinois

"ANYTHING containing IRON or STEEL"

USE SPACE HERE

Robert W. Hunt Company ENGINEERS

Inspection—Tests—Consultation
All Railway Equipment
Structures and Materials
General Office:

175 W. Jackson Boulevard
CHICAGO
New York - Pittsburgh - St. Louis

SEE

ADV.

TOP OF PAGE 154

BUY

WAR

BONDS

WE OFFER FOR SALE

500 BOX CARS

80,000# capacity—2560 cu. ft. Outside length 37'10"—All Steel Underframes—Steel Ends—Steel Roofs—Steel Doors—Wood Floors and Siding—U Section Cast Steel Side Frames.

Write

Wire

'Phone

GENERAL RAILWAY EQUIPMENT COMPANY

1601 Girard Trust Company Building, Philadelphia, 2, Pennsylvania

IN the Pay Roll Savings Plan, America finds a potent weapon for the winning of the war—and one of the soundest guarantees of the preservation of the American way of life!

Today about 30,000,000 wage earners, in 175,000 plants, are buying War Bonds at the rate of nearly half a billion dollars a month. Great as this sum is, it is not enough! For the more dollars made available now, the fewer the lives laid down on the bloody roads to Berlin and Tokio!

YOU'VE DONE YOUR BIT

NOW DO YOUR BEST!

BUY WAR BONDS

Index to Advertisers

November 20, 1943

A A. C. F. Motors Company, The, a Division of The Brill Corporation 104, 105 Adams & Westlake Co., The.... 81 Air Reduction Sales Co. 24 Alan Wood Steel Company 137 American Arch Company, Inc.... 123 American Brake Shoe Co. 25 American Bridge Company 91 American Car and Foundry Co. 96, 97 American Creosoting Co., Inc.... 26 American Institute of Bolt, Nut and Rivet Manufacturers 46, 47 American Locomotive Co. 7, 48, 49, 125 to 128 incl. American Optical Company 18 American Steel Foundries 99 American Steel & Wire Company 87 to 90 incl. Armco Railroad Sales Co. 30 Automatic Transportation Co.... 28	Electric Storage Battery Co., The 4 Electric Taper & Equipment Co. 36 Electro-Metallurgical Co. 83 Electro-Motive Division, General Motors Corporation Front Cover, 129 to 134 incl. Ex-Cell-O Corporation 34 F Fabreeka Products Co., Inc.... 32 Fafnir Bearings Company, The 76 Fairmont Railway Motors, Inc. 112, 113 Fitzgerald Mfg. Co., The 148 Flannery Bolt Company 140, 141 Formica Insulation Co., The .. 52 Franklin Railway Supply Co., Inc. 122 G General Electric Company 7 General Machinery Corp. 86 General Railway Equipment Co. 155 General Railway Signal Co. Back Cover General Refractories Company... 144 Georgia Creosoting Co., Inc. 26 Get Together Department 155 Globe Steel Tubes Company... 106 Gold Car Heating & Lighting Co. 152 Gould Storage Battery Corp. .. 33	K Kerite Insulated Wire & Cable Co., Inc., The 152 L Lehon Mfg. Co. 150 Lima Locomotive Works, Inc.... 121 Locomotive Finished Material Co., The 109 Logan Drinking Cup Co. 147 M Magnus Metal Corp. 98 Mayfair Hotel 154 Warren McArthur Corporation 78, 79 McConway & Torley Corporation 50 Minneapolis - Honeywell Regulator Company 146 Monroe Auto Equipment Co.... 94 N National Bearing Metals Corporation 59 National Malleable and Steel Castings Company 14, 15 National Tube Co. 87 to 90 incl. New York Air Brake Co., The 68 O Ohio Locomotive Crane Co., The 152 Okonite Company, The 148 Oliver Iron & Steel Corp. 64 Oxweld Railroad Service Company, The 70, 71 P Pacific Coast Envelope Co. 147 Paxton-Mitchell Company 138 Pilliod Company 151 Pittsburgh Spring & Steel Co. 152 Pittsburgh Steel Company 143 Pressed Steel Car Co. 19, 20, 21, 22 Pullman-Standard Car Manufacturing Co. 60, 61, 62, 63 Pyle-National Company, The... 145 R Railway Accessories Co. 154 Railway Educational Bureau, The 155 Railway Steel Spring Division of American Locomotive Co. 48, 49 Ramapo Ajax Division, American Brake Shoe Co. 25 Republic Steel Corporation 53 Reynolds Metal Co., Railway Supply Div. 92, 93 Rosemary Sales—A division of Simmons Company 54 Ryerson & Son, Inc., Joseph T. 156	S Safety Car Heating and Lighting Co., Inc., The 82 Schaefer Equipment Company... 35 Silent Hoist, Winch & Crane Co. 148 Simmons-Boardman Corp. 102, 150 Sinclair Refinery Co. (Inc.) .. 66 SKF Industries, Inc. 17 Sonken-Galamba Corp. 155 Sperry Rail Service 107 Standard Railway Equipment Mfg. Company 120 Standard Stoker Company, Inc., The 111 Stucki Co., A. 152 Superheater Co., The 124 Swanson Company, The 147 Symington-Gould Corp., The.. 157 T Tennessee Coal, Iron & Railroad Co. 87 to 90 incl. Thomas Machine Mfg. Co. 108 Timken Roller Bearing Co., The 27 Tucos Products Corporation ... 151 U Union Carbide and Carbon Corporation 70, 71 Union Spring and Mfg. Co.... 148 Union Steel Castings Division of Blaw-Knox Co. 73 Union Switch & Signal Co. 118 U. S. Envelope Company 147 U. S. Metallic Packing Co., The 150 United States Steel Corporation 12, 13, 87, 88, 89, 90, 91 United States Steel Export Co. 12, 13, 87, 88, 89, 90, 91 V Vanadium Corp. of America 74, 75 Vapor Car Heating Co. 31 Viloco Railway Equipment Co. 115 W Warren McArthur Corporation 78, 79 Waugh Equipment Company... 67 Waukesha Motor Company ... 43 Weatherhead Company, The ... 39 Western Railroad Supply Co. 57 Westinghouse Air Brake Co.... 136 Whitcomb Locomotive Works... 114 Worthington Pump and Machinery Co. 55 Y Yale & Towne Manufacturing Co., The 72
B Baldwin Locomotive Works, Inc. 40, 41 Barco Manufacturing Company 65 Barrell Company, Inc., William 69 Bendix-Westinghouse Automotive Air Brake Co. 29 Bowser, Inc. 154 Bridgeport Brass Company 101 Bridgeport Fabrics, Inc. 149 Buckeye Steel Castings Co., The 149 Buda Co., The 37 Budd Mfg. Co., Edward G. 84, 85 Bullard Company, The 10, 11 C Canadian Cardwell Co., Ltd.... 95 Cardwell Westinghouse Co. 95 Carey Co., Inc., Thomas F.... 155 Carnegie-Illinois Steel Corporation 12, 13, 87 to 90 incl. Chase and Company, L. C. 51 Climax Molybdenum Company .. 23 Colonial Creosoting Co., Inc.... 26 Columbia Steel Company, 12, 13, 87 to 90 incl.	H Hanna Stoker Company, The .. 80 Harbison-Walker Refractories Co. 123 Haskelite Manufacturing Corporation 100 Hennessy Lubricator Co., Inc.... 110 Heywood-Wakefield 42 Hunt Company, Robert W.... 155 Hunt-Spiller Mfg. Corporation.. 135 Hyatt Bearings Division, General Motors Corp. 116 Hyman-Michaels Company 152 I Inland Steel Company 3, 8, 9 International Correspondence Schools 155 International Creosoting & Construction Co. 6 Iron & Steel Products, Inc.... 153, 155 J Johns-Manville Corp. 56 Justrite Manufacturing Co. 146	K Kerite Insulated Wire & Cable Co., Inc., The 152 L Lehon Mfg. Co. 150 Lima Locomotive Works, Inc.... 121 Locomotive Finished Material Co., The 109 Logan Drinking Cup Co. 147 M Magnus Metal Corp. 98 Mayfair Hotel 154 Warren McArthur Corporation 78, 79 McConway & Torley Corporation 50 Minneapolis - Honeywell Regulator Company 146 Monroe Auto Equipment Co.... 94 N National Bearing Metals Corporation 59 National Malleable and Steel Castings Company 14, 15 National Tube Co. 87 to 90 incl. New York Air Brake Co., The 68 O Ohio Locomotive Crane Co., The 152 Okonite Company, The 148 Oliver Iron & Steel Corp. 64 Oxweld Railroad Service Company, The 70, 71 P Pacific Coast Envelope Co. 147 Paxton-Mitchell Company 138 Pilliod Company 151 Pittsburgh Spring & Steel Co. 152 Pittsburgh Steel Company 143 Pressed Steel Car Co. 19, 20, 21, 22 Pullman-Standard Car Manufacturing Co. 60, 61, 62, 63 Pyle-National Company, The... 145 R Railway Accessories Co. 154 Railway Educational Bureau, The 155 Railway Steel Spring Division of American Locomotive Co. 48, 49 Ramapo Ajax Division, American Brake Shoe Co. 25 Republic Steel Corporation 53 Reynolds Metal Co., Railway Supply Div. 92, 93 Rosemary Sales—A division of Simmons Company 54 Ryerson & Son, Inc., Joseph T. 156	U Union Carbide and Carbon Corporation 70, 71 Union Spring and Mfg. Co.... 148 Union Steel Castings Division of Blaw-Knox Co. 73 Union Switch & Signal Co. 118 U. S. Envelope Company 147 U. S. Metallic Packing Co., The 150 United States Steel Corporation 12, 13, 87, 88, 89, 90, 91 United States Steel Export Co. 12, 13, 87, 88, 89, 90, 91 V Vanadium Corp. of America 74, 75 Vapor Car Heating Co. 31 Viloco Railway Equipment Co. 115 W Warren McArthur Corporation 78, 79 Waugh Equipment Company... 67 Waukesha Motor Company ... 43 Weatherhead Company, The ... 39 Western Railroad Supply Co. 57 Westinghouse Air Brake Co.... 136 Whitcomb Locomotive Works... 114 Worthington Pump and Machinery Co. 55 Y Yale & Towne Manufacturing Co., The 72
D Davenport Locomotive Works, a division of Davenport Besler Corp. 103 Dayton Rubber Mfg. Co., The 77 Dearborn Chemical Company .. 5 Dolphin Paint and Varnish Co. 152 Doubleday, Doran & Co. 150 Dry-Zero Corp. 58 Dunier Company 152 E Eaton Manufacturing Co. 2 Edgewater Steel Company 44, 45 Edison Storage Battery Div., Thomas A. Edison, Inc. 38	I Inland Steel Company 3, 8, 9 International Correspondence Schools 155 International Creosoting & Construction Co. 6 Iron & Steel Products, Inc.... 153, 155 J Johns-Manville Corp. 56 Justrite Manufacturing Co. 146		

STEEL in stock at
RYERSON

Ryerson has the steel you need ready for immediate shipment. Ten convenient Ryerson plants stock more than ten thousand kinds, shapes and sizes of steel and allied products. Joseph T. Ryerson & Son, Inc. Plants at: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City.

Principal Products Include:

Structurals	Strip	Stainless	Babbitt, Solder
Stay Bolt Iron	Alloys	Mechanical Tubing	Reinforcing
Plates	Cold Finished Steel	Boiler Tubes	Nails, Rivets, etc.
Sheets	Tool Steel	Welding Rod	Machinery

82
35
48
50
66
17
55
107
120
111
152
124
147
157
incl.
108
27
151
71
148
73
118
147
150
91
91
75
31
115
79
67
43
39
136
114
55

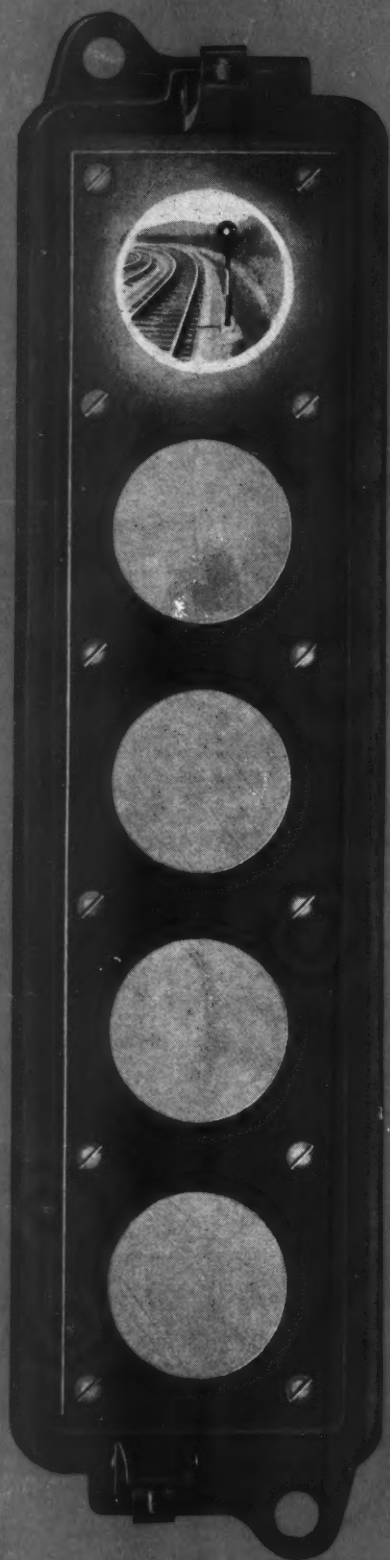
72

GE



MEET TODAY'S DEMANDS . . .

. . . WITH TOMORROW'S REQUIREMENTS



. . . G-R-S CAB SIGNALS

meet the demand for "up-to-the-minute" information on conditions affecting train operations. This information is always in view of the enginemen regardless of storms, fogs, curves, sleet, rain or snow. G-R-S Cab Signals offer proven dependability in the maintenance of fast schedules and the promotion of safety.

"On-time," high-speed schedules of the future will require adoption of every tested and proven method of dependable expediting. More important is security at high speeds.

If yours is not one of the roads now using G-R-S Cab Signals, we suggest you investigate now your anticipated post-war requirements. Write our nearest District Office for details. Plan NOW for the future.



GENERAL RAILWAY SIGNAL COMPANY

New York

San Francisco

ROCHESTER, N. Y.

Chicago

St. Louis

A 2002



TS

1

s

-

v

r

-

-

e

y

-

s

w

st

d

r-

W

